The Hunterian Oration

ON

JOHN HUNTER AS A PHILOSOPHER.

DELIVERED AT THE ROYAL COLLEGE OF SURGEONS OF ENGLAND ON FEBRUARY 15TH, 1909, IN THE PRESENCE OF THEIR ROYAL HIGHNESSES THE PRINCE AND PRINCESS OF WALES.

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PRESIDENT OF THE COLLEGE.

MAY IT PLEASE YOUR ROYAL HIGHNESSES,
MR. VICE-PRESIDENT,
YOUR GRACE, MY LORDS, LADIES AND GENTLEMEN,—My first duty is to request Your Royal Highnesses to accept the grateful and respectful thanks of this College and the surgical profession of England which this College represents, for the great favour you do us by honouring the memory of John Hunter, whose inheritors we are, by your presence here to-day.

We shall ever remember with great pride that you, Sir, have deigned to accept the diploma and sign the roll of the Honorary Fellowship of the College, and the graciousness of this act has been deeply accentuated by its having been performed in the presence of Her Royal Highness the Princess of Wales.

I will also venture to add that your Royal Highnesses' visits of sympathy and compassion, such as those of the last few days, to several of the London hospitals—visits which give so much gratification and delight to the patients, and so much countenance and encouragement to the management and staffs of the hospitals—tend to qualify you, Sir, for the diploma you have to-day received; for in the noblest spirit and in the best sense of the words you have thus been engaged in that most essential part of the surgical curriculum known as "walking the hospitals."

We are met in memory of John Hunter, who was born 181 years ago yesterday, died on October 16th, 1793, and is interred in Westminster Abbey.

Those who founded this oration designed that it should be expressive of the merits, not only of the said John Hunter, but also of such persons, deceased since the delivery of the last oration, whose labours have contributed to the improvement or extension of chirurgical science.

Two men of remarkably strong character—namely, Sir Joseph Fayrer, Bart., K.C.S.I., LL.D., F.R.S., and Mr. Timothy Holmes—died in 1907. The former, a Fellow of this College, was distinguished for his public and private services in India and at home, for the sound good sense of his teaching and practice, and for his standard work on the poisonous snakes of India. Mr. Holmes was noted for his scholarship and extensive learning, for the eloquence of his spoken and the pungency of his written language, and for his services in various capacities in connexion with this College.

In 1908 death removed three others, namely Mr. William Allingham, Mr. Reginald Harrison, and Sir Alfred Cooper. All three were men well known by their works and writings in their respective fields of surgery, and the last two will be remembered by those who knew them personally for their exceptionally genial characters and lovable natures. Mr. Reginald Harrison and Sir Alfred Cooper, like Mr. Holmes, were Vice-Presidents and members of the Council. Mr. William Allingham likewise had served for a term of years as a member of the Council.

By the death of Professor Charles Stewart, LL.D., F.R.S., who was conservator of the Hunterian Museum for twenty-three years, and who died in office in 1907, science lost a distinguished physiologist, and this College a most able officer, a skilful draughtsman, and a very lucid and admirable lecturer.

An Italian poet has feigned that at the end of the thread of every man's life there hangs a little medal or collar stamped with his name, and that when Time with the shears of Atropos has cut the thread, he throws the medals into the river Lethe; but that about the river there are many birds flying up and down, who catch the medals, and, after carrying them round in their beaks a little while, let them fall into the river; only there are a few swans which carry off certain medals to a temple consecrated to Immortality.

Though it may be that none of the names I have mentioned have been carried by the swans to the Temple alluded to by Ariosto, other birds have secured the medals, and, sparing them from the waters of Lethe, have deposited them with the records of this College. There they will not be forgotten.

Those are rare epochs in science which are marked by distinct progress due to some particular worker like John Hunter.

Though his name is not associated with any very striking discovery like that of the circulation of the blood by Harvey, or the specialization of nerve function by Charles Bell, his influence upon many sciences was both far-reaching and profound. His contributions to knowledge in human and comparative anatomy, in the natural history of plants and animals, in vegetable and animal physiology, and in geology and palaeontology, were of such signal value that progress was made in each of these sciences through his labours. In one of his papers to the Royal Society, Hunter, in referring to the light thrown on pathology by the then recent physiological discovery of the lymphatics as part of the absorbent system, wrote: "A discovery in any art not only enriches that with which it is immediately connected, but elucidates all those to which it has any relation."

The truth of this is illustrated by his own investigations, which, by enriching physiology, illuminated the whole range of Medicine and Surgery, and may be said to have given birth to the *Philosophy of Disease*, as Pathology may well be named after what Hunter did for it.

He was the only man in England in the eighteenth century who took a really comprehensive view of the phenomena of Nature; the only great natural philosopher between the date of Sir Isaac Newton's death in 1727 and the coming of those brilliant examples of our national intellect, Erasmus Darwin, John Dalton, Humphry Davy, and Thomas Young, all epoch-makers whose works appeared immediately after Hunter's death in 1793.

There was, however, in France, an exact contemporary of Hunter, whose life work was very similar to his. This was Louis-Jean-Marie Daubenton (1716–1800), the rival of Réaumur as the leader of natural history in France; a considerable anatomist, who dissected and described 182 species of quadrupeds; a coadjutor of the great Buffon; a great authority in vegetable physiology, in mineralogy, and on fossils.

It is highly probable that Hunter and Daubenton were influenced to some extent by each other's work—Hunter by Daubenton, more particularly in palaeontology.

Sir Richard Owen has styled Cuvier "the Founder of Palaeontology," but the claim to that title really belongs to Daubenton, whose memoir on the application of comparative anatomy to the study of fossil bones was published in 1762, or thirty-four years before the writing of Cuvier on the subject.

Very different opinions concerning (1) John Hunter's early education, and (2) his method of investigation as a philosopher, have been expressed by his biographers; yet clear information is obtainable on these points.

The impression to be gathered from much that has been written of him is that he was one of the class of untaught geniuses, who have risen to the highest intellectual eminence by their own unaided powers; that up to his twenty-first year he was indolent, averse to study or to submit to being taught, idling his time in birds-nesting and low companionship, and that he finally took up the study of anatomy and entered the medical profession after failing to become, or tiring of being, a millwright or a cabinet-maker.

I am satisfied, from the evidence of extant letters written by his relatives and contemporaries, that this description is wrong in nearly every particular.

He was the grandson of Francis Hunter, who was the second son of Hunter, the laird of Hunterston in Ayrshire, whose family history goes back to the thirteenth century.

His father was the owner of a small estate at Long Calderwood in Lanarkshire, seven or eight miles from Glasgow, which he farmed himself.

John Hunter's mother was a Miss Paul, the daughter of the Treasurer of the City of Glasgow.

John was the youngest of ten children; but besides himself, only two brothers and two sisters lived to grow up. Both brothers received the usual school and university education. James, the eldest, became a writer to the Signet. William, who was ten years older than John, was celebrated as a teacher of anatomy and surgery, and a leading London physician. Of the two sisters, Dorothea Hunter married the Reverend James Baillie, afterwards Professor of Divinity in the University of Glasgow, and became the mother of the famous physician, Dr. Matthew Baillie, and also of two daughters, one of whom, Joanna Baillie, was the highly gifted authoress of the Dramas on the Passions, and one of the closest friends of Sir Walter Scott. The other sister, Janet Hunter, died within a year of her marriage, and immediately after John Hunter came to live in London in 1748. Her husband was a sociable, musical, but unbusinesslike young man, named Buchanan, of good family and good patrimony, who had settled in Glasgow as a partner in a large firm of timber merchants. At that date there were no upholsterers in Scotland, and high class furniture was made in workrooms in timber yards, where foreign and rare, as well as indigenous and common, woods were obtainable. It was here that John Hunter, who prided himself upon his manual dexterity, tried his hand at cabinet-making during a short visit which he paid to his sister, Mrs. Buchanan. Hence originated the statement made by his spiteful and disparaging biographer, Jesse Foot, that Hunter had served, and failed, as a millwright or carpenter.

John Hunter lost his father when in his fourteenth year, and having for some time before ceased to attend school, continued to live at home under his mother's influence, till he came to London in his twenty-first year to study anatomy under his brother William.

He was fond of games, but passed much of his time rambling amongst the woods and braes, and taking notice of every form of animal and vegetable life.

Thus, without going to school and college, and getting the same education as his two brothers, he was gaining the knowledge which he could best assimilate, and laying the foundation of his future greatness in natural science and surgery.

The constant companionship of his mother, and the example set him by his brothers and sister, Dorothea, was an education in itself. John Hunter might have said what Charles Bell[1] wrote of himself: "My education was the example set me by my brothers. There has been a good deal said about education, but they appear to me to put out of sight example, which is all in all." And speaking of his mother, Bell adds, "she was my only teacher."

One gets the impression from their biographies that the home life of both Hunter and Bell had an elevating and an educating influence, and was devoid of the superstitions and fanaticism then prevalent in Scotland.

Since the time of Demosthenes, who from his seventh year was brought up and educated by his mother, a great many men who have attained to greatness have ascribed their success to the instruction received from their mothers. Two of Hunter's most distinguished disciples, Sir Benjamin Brodie and Sir Charles Bell, did so very emphatically. Cuvier is another instance.

In reference to his lack of school and university training, it is well known that there are those to whom this routine is insurmountably repugnant, but who yet are eager in the acquisition of other forms of knowledge. To quote Sir Charles Bell again in reference to his own experience, he said: "The memory of verses, or Latin rules, without intellectual comprehension of some principles, I was incapable of. This incapacity depressed me, and it was only when in professional education I found subjects more suited to my capacities that I began to respect myself, and favourably compare myself with my fellow-students." Charles Darwin also has told us that school as a means of education was to him simply a blank. John Stuart Mill as a philosopher, Henry Thomas Buckle as a historian, and Robert Louis Stevenson as an essayist and writer of fiction may be cited from amongst many other distinguished men who had no regular school or university education.

As to the assertion that John Hunter was fond of low society, his association with the men he met at the house of his highly educated and highly cultivated brother, William, and the fact that he married Sir Everard Home's sister, a charming and accomplished woman, all tend to contradict it.

Mrs. John Hunter was very musical, and wrote the words for Haydn's (1732–1809) English Canzonets, one of which—*My mother bids me bind my hair*—is among the best known. Hunter himself was fond of art, and a collector of prints and engravings and armour.

As to what was the philosophic method pursued by Hunter as a man of science, his writings tell in no uncertain manner.

There are only two methods open to the intellect—Deduction and Induction. Deduction starts from a general proposition and reasons from this to individual cases. Induction starts from individual facts and reasons upwards to general propositions.

For example, reasoning by deduction from the major proposition, "All men are mortal," and the minor proposition which I will put thus, "Mr. Brown possesses all the attributes of man," we arrive at the conclusion that "Mr. Brown also will in time die."

Reasoning by induction, on the other hand, we first ascertain (say from reading innumerable biographies, from the records and histories of nations, from tombstones and epitaphs, and from various facts in past and present experience) that every one who has lived has died; and then we conclude that not only will Mr. Brown himself die, but that all Brown's family and all the families of Brown, of Jones, and of Smith, etc.—in fact that *all men are mortal*, notwithstanding the miraculous disappearance of Enoch and that Elijah "went up by the whirlwind into the skies."

Did time permit I might illustrate the difference between deduction and induction by other but less simple instances than that I have just given, and at the same time show the difference between the Scottish and English national methods of inquiry—for example, between Cullen and Hunter in their investigation as to whether all animal matter is originally vegetable matter; or between Hutton and William Smith, who respectively were the founders of Scottish and English geology; or, again, between Watt and Cavendish, who at the same time discovered, Watt by deduction and Cavendish by induction, that water is the component of two gases.

Of each of these instances, it may be truly said that the inductive philosopher (the Englishman) established the facts, and the deductive philosopher (the Scotchman) established the ideas.

Deduction and induction have for the most part been employed separately; but by a few investigators they have been combined.

In the history of the world, there have been three great intellectual movements, leading to three great schools of philosophy, namely, the philosophy of Antiquity identified with Greece, Scholasticism identified with Charlemagne and France, and the New Philosophy which is of English birth and identified with the name of Francis Bacon.

Excepting the philosophy of Aristotle which was largely inductive, the first two were chiefly deductive. The Baconian is known as the New Inductive method.

In reviewing the intellectual movement of the eighteenth century in England, Scotland and France, in its bearing on Hunter and his work, we find that each country adopted one of the two philosophic methods as the national method.

To understand this movement better, it would have been well, had time permitted, to take a brief glance backwards at the philosophy of earlier ages.

Up to the end of the fifteenth century first Greek Philosophy, and then Scholasticism had monopolized men's thoughts; but during those two thousand years and more, they had done nothing to mitigate human suffering, nothing to advance the public weal, nothing to extend the empire of man over the material world. Indeed the application of science to useful practical ends was deemed by the old Greek philosophers to be unworthy of men of learning, degrading and debasing to philosophy, and insulting to philosophers.

Scholasticism, which was a blend of Christianity and Paganism, an "ill-starred alliance between the old philosophy and the new faith," was in reality the logic of Aristotle associated with the teaching of the Church, and by it Reason became subject to Authority, and was made the mere handmaid of Faith.

As men's interests ceased to be centred in ecclesiastical disputations, and their attention became by degrees directed to Art, Science, and practical discoveries, they looked about for some one who would lead them to the dawn of a new Philosophy.

This leader was discovered in Bacon, who propounded a philosophical system essentially new, and differing alike both in method and object from that of the Ancients, and that of the Mediaevalists or Schoolmen.

Bacon described with scorn the uselessness of the Philosophy of the Platonists, the Peripatetics, the Stoics and the Epicureans. Equally he scouted the system and dogmas of the Schoolmen.

Whilst disclaiming to be himself the founder of a sect or school, and fully foreseeing that his method was by no means perfect, he gave a new and powerful impulse in a direction diametrically opposed to both the Greeks and the Scholastics.

Some who have never studied his works seem to entertain a very incorrect idea as to what it was Francis Bacon really did for science. Of course he did not invent Induction. The inductive method has been practised ever since the world began; by every infant before weaning, by every new-born mammal as it learns that it will get milk from its mother, not from its father; by every farm labourer who finds by experience that he cannot gather grapes from thorns nor figs from thistles, and that if he sows tares, he will not reap wheat or garner barley. We are all employing the inductive method daily; and many who have never read the rules laid down in the *Novum Organum* are conducting the process as well as or better than many who have.

Bacon's great merit is that he "led forth the sciences from their house of bondage"; that he directed the minds of men away from mere verbal disputations to the discovery of truth by observation and experiment; that he incited men to develop the industrial arts and to acquire knowledge and apply it "to the glory of God and the relief of man's estate."

The chief cause of this great reformation in Philosophy was the great reformation in Religion.

The Intellectual Movement in England.

In England that enlightened scepticism and spirit of inquiry which in religion conduced to toleration, in politics to freedom, and in physics to natural science, came to the front in the sixteenth century with the Reformation, increased with the Rebellion of 1645, and was confirmed by the Revolution of 1688.

The Reformation dissipated the notion of the infallibility of the Church. The history of different countries shows that as long as the governing power was in the hands of ecclesiastics, there was no toleration in Religion and little or no advance in Science. It was in England during the reign of Queen Elizabeth that Government for the first time in any European country was carried on without the active co-operation of ecclesiastical authority; and it was also during her great reign that there began the growth of that splendid literature which was to stimulate and increase the national spirit of liberty and inquiry, and to spread its influence, in a generation or two later, first over France, then throughout Europe.

During the first half of the seventeenth century, which was a period of great superstition, there was an effort to reverse the enlightened policy of Elizabeth. The influence of this on works of learning is well illustrated by the two books of Sir Thomas Browne. His *Religio Medici* was published about 1634. In this book the author exhibits a superlative degree of credulity, expresses his belief in witches, and declares his willingness to assent to a proposition all the more because of its improbability, and his readiness to believe in a thing in proportion to its actual impossibility. But twelve years later (1646), when the Civil Wars of the Rebellion were raging, and men's intellects were becoming more and more independent of authority, Sir Thomas Browne's second book, *Enquiries into Vulgar and Common Errors*, appeared, and proved to be a systematic and elaborate attack upon most of the superstitions then prevalent. The striking inconsistency between these two works by the same author marks the growth of the vast social and intellectual changes which culminated in the overthrow of ecclesiastical intolerance and political persecution.

During the Commonwealth and after the Restoration came an increased desire for knowledge. The period following the Revolution of 1688 forms one of the most important periods in the history of the world, because it was then, and in this country, that the human intellect was completely freed from subjection to authority; and it was then, and in this country, that the triumph of liberty over despotism, and of reason over blind and enforced credulity was permanently and completely accomplished.

The suppression of superstition was further aided by the earnestness with which the physical sciences began to be cultivated during the Commonwealth, and after the Restoration.

The Royal Society was established in 1662, and Robert Boyle (1626-1691), who adopted the views and method of Bacon, was making discoveries of the very first importance.

When Hunter arrived in England, he came amongst a people deeply imbued with the Baconian spirit, for if Harvey, Hobbes, and Newton be excepted, all English scientists for a hundred and fifty years after the death of Bacon, in 1626, were eminently inductive.

Newton, who was born sixteen years after Boyle, had been dead twenty-one years when Hunter came to London in 1748; and the only giant mind in England to be likened to Hunter was Edmund Burke (1728-1797), the reflective and philosophic statesman who resembled him in the power of his intellect, in his marvellous capacity for thinking, and in his conception of general principles based on long considered ideas. Hunter's rôle was the philosophy of Life and Nature; Burke's, the philosophy of Civilization.

Though during Hunter's life there was no one in England pursuing science who was at all comparable with himself, or with the great Scottish and French philosophers and scientists then living, still the period covered by Hunter's residence in London was one of great national brilliancy and renown in many branches of learning and culture, despite the depths of political and commercial degradation into which the country fell owing to the taxation of America, and the American war and its consequences.

The British Museum was founded in 1753 through the collections made by Sir Hans Sloane being purchased by the Government on his death.

Sir Hans Sloane followed Sir Isaac Newton as President of the Royal Society. Like Hunter, he was led to study medicine owing to his intense love of natural history. He was the first person in England to attempt to form a museum; and it is interesting to note that the British Museum, the Glasgow Museum, and the unrivalled Museum in this College, owe their existence to collections made by London medical men of Scottish extraction, namely Sloane, William Hunter, and John Hunter respectively.

In Literature and Art the eighteenth century was very illustrious. The Royal Academy was founded in 1768 at the instigation of Benjamin West, a Pennsylvanian Quaker, who startled the Italians by likening their Belvidere Apollo to a Mohawk warrior, and is said to have painted 400 pictures for King George III. With West, three other artists were associated in obtaining the Charter of the Royal Academy, one of them being Penny, the son of a London surgeon, who was made the first Professor of Painting. Dr. William Hunter was appointed the Professor of Anatomy.

It has been said by one of the biographers of Sir Joshua Reynolds that there centred round him as the first President of the Royal Academy a "surprising and splendid constellation of genius, such as never before his time, and never since, illumined this country."

Reynolds lived opposite John Hunter in Leicester Fields, now Leicester Square, and his genius as an artist has pictured for all times, on the canvas suspended behind me, the thought-inspired features of the famous surgeon.

"The Marriage à la mode," the "Rake's Progress," and the other "pictorial sermons," as they have been called, of Hogarth; the "Blue Boy," the "Celebrated Duchess,"

and the grand landscapes of Gainsborough; the character portraits of Lady Hamilton by Romney, and probably some of the earlier paintings by Lawrence and Hoppner, must have been known to Hunter. So, too, the works of West, Cosway, Richard Wilson, Opie, and others of less importance.

Now, for the first time in its history, this country produced genius enough to establish its claim to the honourable distinction of having "an English School of Painting."

Bartolozzi, the Florentine, settled in London in 1764, and for forty years was occupied here in engraving pictures—his reproductions being as a rule more beautiful than the originals.

Angelica Kauffmann, too, was delighting Londoners by her sentimental pictures, astonishing them by her cold-blooded and unsentimental marriages, and decorating with pseudo-classic paintings the interiors of houses in the Adelphi and of mansions elsewhere, built by the brothers Adam.

Hogarth, Edmund Burke, Samuel Johnson, Oliver Goldsmith, David Garrick, Sterne and others, all friends of William Hunter and his brother John, were meeting daily at the Literary Club, the Turk's Head, or Reynolds's house.

Fielding, having published *Tom Jones* (1749) and *Amelia* (1751), was annoying Richardson by his burlesque of *Pamela*, and worrying the Government and the Lord Chamberlain by his satires on bribery and the elections.

Smollett's *Roderick Random*, published in 1748, may have been read by Hunter during his first journey from Scotland to London.

The Rev. Laurence Sterne created a great popular success by the gross innuendoes and indelicacies of *Tristram Shandy*; and the prim little Fanny Burney (Madame d'Arblay) became famous as a novelist of irreproachable propriety.

"The Tragic Muse"—Sarah Siddons—had all but drawn tears from Hunter's eyes, and David Garrick as "Felix" in *The Wonder: A Woman Keeps a Secret*, must on some occasion or other have made him laugh until he sobbed.

Pope and Swift and Sir Robert Walpole died when Hunter was 16 or 17 years old.

Alexander Pope was a friend of Cheselden, and Cheselden was Hunter's first surgical instructor.

In this way, through Cheselden perhaps, or perhaps from hearing the poems read aloud when a boy at home, Hunter must, I think, have been influenced or inspired by Pope. The *Essay on Man* was published in 1734, and it is impossible to read some of Hunter's statements, or to follow his lines of thought, without being frequently reminded of passages on Nature, and the Universe, and the relation of man to the rest of the universe, which that poem contains.

Lastly, as a collector of prints, pictures, weapons and armour, et cetera, Hunter probably encountered that personification of affectation—Horace Walpole—in some of the curio shops or sale rooms of the town, when Walpole was hunting for oddities and rarities to add to the motley collection for which he was notorious. Collecting was becoming quite a fashion of the time.

The Intellectual Movement in Scotland.

The intellectual movement in Scotland differed widely from that in England in the seventeenth and eighteenth centuries.

After the passing of the Acts of 1707 ratifying the Union of Scotland and England, good roads and canals connecting the chief towns and districts were made, and manufactures and commerce were promoted. Hence it happened that just about the date of Hunter's birth, Scotland for the first time in her history, produced two classes of enterprising and thinking men, whose aims were essentially secular, namely an industrial class, and a philosophical class.

During Hunter's early manhood, commercial and manufacturing prosperity had fairly set in, and philosophers and scientists of the very highest eminence were beginning to make the name of Scotland famous by their labours.

The number of original thinkers in Scotland in the eighteenth century is the more noteworthy, because in all the previous centuries the country had only produced two authors whose works were of the least merit, namely, Buchanan (1506–1582), the Scottish historian and the greatest Latin scholar of his time; and Napier (1550–1617), the inventor of logarithms.

But the most striking fact about Scotland in the eighteenth (and the first half of the nineteenth) century was the existence of so many philosophers, and the creation of a noble and enduring literature, at a time when the Scottish were the most priest ridden and superstitious people in Europe, not excepting even Portugal and Spain.

Besides the influence of the Scottish Kirk, another cause of the continuing ignorance and superstition of the people was the national method of inquiry. Centuries of ecclesiastical supremacy had influenced the nation in favour of the Theological Method of reasoning; and as the Church required the acceptance on faith of general principles and dogmas, and regarded it as heresy to doubt or question, this method was necessarily the deductive. Induction under such conditions is impossible. Paley, and the authors of the Bridgewater Treatises, and many essayists tried it, and failed.

When, therefore, the ablest minds in Scotland directed their thoughts and attention to philosophy and science, they without exception employed the deductive system with which they had been made so long familiar.

Thus it was with Hutcheson and Reid in metaphysics; with Adam Smith and Hume in political economy and history; with Black in physics and chemistry; Cullen in pathology; Hutton in geology; and Leslie and Watt in chemistry. In all branches of science it was the same. All the discoveries made by Scotsmen concerning both the inorganic and the organic world were made by the deductive method.

The Intellectual Movement in France.

As there is reason to think that Hunter was acquainted with the scientific work going on in France, notably that of Daubenton, and as Hunter's work was not without effect on some of the great French scientists, such as Cuvier and Bichat, I propose to examine very briefly the intellectual movement in France just before and during Hunter's lifetime.

The spirit of intellectual progress for which France was celebrated during the age of Richelieu and Descartes in the first half of the seventeenth century did not continue. In the second half of that century, and during the rest of the reign of Louis XIV, it was thwarted and delayed by the despotic and protective spirit of government, which was an early but a weighty cause of the French Revolution; just as liberty and reform in England were checked by attempts in the first half of the seventeenth century to suppress the popular will, and to reinstate in power the Catholic clergy.

Immediately, however, after the death of Louis XIV, in 1715, the state of the popular mind in France, which was thirsting for inquiry and hungering for liberty, was as favourable to the reception of the Baconian system in that country, as the popular desire for political and intellectual freedom in England had been in the seventeenth century.

When, therefore, in spite of the natural vanity of the French people during Louis's lifetime, the eyes of France turned after 1715 to England as the only country where liberty was known, nearly every Frenchman of eminence in literature and in medical and other sciences either visited England or learnt the English language; many did both.

Voltaire, Diderot, Buffon, Montesquieu, all took part in introducing English literature and English philosophy into their own country.

During the second half of the eighteenth century many of the best intellects in France were directed to physical science. A hundred years before, Descartes had made it a fundamental principle of his philosophy that we must ignore the knowledge of the external world—that is, of Nature—and must depend on "thought." Now, Helvetius, the most celebrated French moralist, and Condillac, the most celebrated French metaphysician of their period, said, "We owe the whole of our knowledge to Nature." It was this latter view which led to the discovery of more new truths in science by Frenchmen between 1750 and the end of the eighteenth century than had been made in al previous periods put together. The names of Lavoisier,

Foucroy, Berthollet, Fourier, Buffon, Daubenton, Cuvier, and Bichat bear testimony to this.

The vast discoveries which were being made roused general interest and curiosity in France. Some acquaintance with Science came to be considered essential to a good education. Lectures in all branches of science drew together persons of the highest rank as well as of the several classes below them. Women of fashion attended lectures on chemistry, geology, mineralogy, physiology, and anatomy. Antoine Petit's lectures on anatomy (commenced in 1768) were delivered before overflowing audiences. Cuvier[2] tells that the anatomical descriptions which Daubenton wrote for Buffon were to be seen on the toilet tables of ladies. Oliver Goldsmith, who was in Paris in 1755, remarks with surprise that he saw "as bright a circle of beauty at the Chemical Lectures of Rouelle as gracing the Court of Versailles." It was the same at the public séances of the Académie Française in 1779, and at Foucroy's lectures on Chemistry in 1784.

Such was the condition of the intellectual life in France, and particularly in Paris, during the latter half of Hunter's career.

The same spirit prevailed in this country. The English democracy had just begun to enter eagerly into political life. There was also a great increase in the general desire for knowledge, and this demand was augmented by the very steps taken to satisfy it. Now for the first time the public at large took some interest in the cultivation of the fine arts, and in 1760 was held the first public exhibition of pictures by English artists. It was during the eighteenth century that booksellers first started shops in the provinces, and that circulating libraries, and periodical reviews were first introduced. The publication of the proceedings in Parliament, against which the last standing order was passed in 1728—the year of Hunter's birth—and concerning which the Lord Mayor and an Alderman of the City of London were sent to the Tower in 1771, became an established parliamentary institution from 1772. Before the second quarter of the eighteenth century printing establishments were almost unknown in provincial English towns, and printing presses were only by degrees being set up in country towns in the latter half of the century. It was in the eighteenth century also that the earliest systematic attempts were made in England to popularize the sciences by lectures, to spread knowledge of physical truths through the medium of encyclopaedias, and simple treatises, and to give enlightenment by means of public addresses on such subjects as political rights of the people. It was in the latter half of the same century that Sunday schools, reading clubs, and debating societies first came into existence.

This desire to learn, and this rapid and widespread diffusion of knowledge amongst the peoples of France and England, were in large measure attributable to the fact that both the French and English national philosophical method was Induction. The condition of the Scottish people at the corresponding period was in marked contrast.

By comparing countries whose national system is Deduction with those whose national system is Induction, it is abundantly proved that knowledge is never widely diffused amongst a people by the deductive method, which begins with ideas; but that it spreads by means of the inductive process, which begins with facts. The deductive process, by dealing with abstract ideas, appeals to the thinking faculty and not to the senses; and as ideas are more difficult to grasp than facts, and as there are more good observers than great thinkers, deduction influences the popular mind much less than induction. Hence it was that the Scottish people did not seek enlightenment, and were content to continue in subjection to theological authority; hence it was that in England the overthrow of Scholasticism (that is, of the purely syllogistic philosophy of the Middle Ages) by the Baconian system, was followed by the general extension of knowledge and trade; and hence it was that in France in the seventeenth century the deductive philosophy of Descartes, and the Cartesian philosophers, did not lead to the general instruction of the people; whereas in the eighteenth century, after English literature, English opinions, and the philosophic views of Bacon and Locke were introduced into France by Voltaire and others, knowledge spread rapidly amongst all classes of the French people.

With increase of knowledge came unhappily a feeling of revenge for the political and social wrongs they had suffered for generations; and the French mind, bent on obtaining freedom, was fired by a deadly determination to resist oppression and defy absolutism which finally culminated (in 1789) in the revolting cruelties of the greatest and most ghastly Revolution the world has ever known.

On October 16th, 1793, John Hunter died suddenly when attending a Board meeting in St. George's Hospital. On the same day and about the same hour Marie Antoinette was beheaded in Paris.

Hunter's Method of Inquiry.

The study of Hunter's works shows that he combined to an exceptional degree the two philosophic methods, deduction and induction.

There is no evidence that Hunter studied formal logic any more than Latin and Greek.

He was essentially a thinker rather than a scholar, yet an experimental philosopher rather than a metaphysician.

But Hunter saw that for a complete scheme of knowledge deduction and induction are supplementary to each other; and when the time comes, if ever it does come, when all the intellectual resources of man are fully developed and perfectly co-ordinated, then these two methods of reasoning will no longer be regarded, as they now often are, as hostile to one another, but will be combined in a single system.

Though a great inductive philosopher Hunter employed the deductive method very largely, especially in pathology. He reasoned downwards from premisses and hypotheses which he deliberately invented, and in doing so arrived at conclusions, sometimes unproven, sometimes inaccurate, sometimes only approximately correct.

Still, though it is true that some of his doctrines have had to be modified, some even set aside altogether, yet on the other hand it is astonishing how many of his speculative conclusions, both in physiology and pathology, formed at a time when microscopes were very inferior and chemical science was in a backward state, have been confirmed by his successors working with much better instruments and with additional and very superior aids to research. Thus did his genius often outstrip facts and anticipate discoveries.

His employment of the inductive method is illustrated by his attempt to explain congenital defects by a reference to transitory structures, and the metamorphoses of foetal life, as in the case of congenital hernia, which arises from the failure of the peritoneal process to become shut off from the peritoneal cavity. Other instances of his use of induction are his scheme for the classification of monstrosities, based on the disposition which every species of animal and every part of an animal body has, to deviate from nature in a manner peculiar to itself; his instructions to Jenner, as to how he should ascertain whether colour-blindness is due to a general defect, or to a failure to appreciate the usual impressions made by primary colours; his careful and patient anatomizing of so many hundreds of different species of animals and of so many animals of the same species; his numerous observations of plants; and his untiring investigation of the diversities of structures and organs in order to arrive at accurate conclusions as to what structures and organs are necessary for the performance of different functions.

As a result of these dissections and observations, he pointed out the conditions which characterized groups of animals, classifying them according to their hearts, their nervous systems, their stomachs. In this he anticipated Cuvier.

Following the induction method he trusted to nothing but his own observations, and to testing his ideas by the most varied and exact experiments. His *Treatise on Bees* is an admirable illustration of this.

Yet, in making inquiries, before drawing his conclusions he is neither prodigal of facts, nor wasteful of experiments. In reference to Swammerdam's minuteness of description of the particular structure of bees, he says that minutiae as such should be avoided, that they are only of value in so far as they elucidate principles; that notice need not be taken of things that are common to a bee and to other

insects, "but only of its peculiarities which distinguish it from all others (animals) and constitute it to be a bee."

Hunter in his *Observations on Digestion*, when criticizing Réaumur and Spallanzani, remarks: "I think we may set it down as an axiom that experiments should not be often repeated which tend merely to establish a principle already known and admitted; but that the next step should be, the application of that principle to useful purposes."[3] And then he goes on to say: "But the application of principles requires more than simply the knowledge of the principle itself, and therefore those who cannot reason from *analogy*, or draw general conclusions from a few convincing facts, and who require to have every relative conclusion or inference proved by experiment, must be pleased with Spallanzani; but he must tire even those whom he informs and much more those who read his works in expectation of something new."[4]

He made great use in practice of analogy and comparison, of resemblance and of difference. Many arguments and inferences drawn from analogy occur in his writings, some of them amounting to the most perfect induction, but others, it must be acknowledged, leading him into error. Fallacies of analogy are to be found in his *Treatise on the Teeth*—for example, he concludes from his experiments with madder on the teeth as compared with others on bone, that the teeth have neither a vascular supply nor absorbents. Again, he argues from the existence and use in carnivora of canine teeth, to their use in man, as organs for tearing and the prehension of food; thus ignoring or overlooking the fact that canine teeth are far more developed in some animals which are exclusively frugiferous.

Some of his analogies are indeed mere conjectures—for example, he infers that the bicuspids are less useful than either the incisors or the molars, and he attempts to support this by saying, "in most animals, so far as I have observed, there is a vacant space between cutters and grinders."

It was chiefly by induction that he concentrated the scattered facts of comparative anatomy, and thereby advanced the progress of physiological science.

But a considerable part of his pathology also is based on the inductive process.

Notwithstanding his vast achievements in physiology, he was even greater as a pathologist.

If it be remembered what pathology was before his own time, it must be admitted that in this science Hunter remains without a rival. It is in this science especially that his depth of insight, his profundity of thought, and his comprehensiveness of view mark him out as a genius.

With Hunter, pathology included the laws of disease, not only in man, but in the whole of the animal and vegetable kingdoms. His outlook was even more comprehensive still, for it embraced not only the whole of the organic world, but the deviations from the typical form in the inorganic also.

In the study of the obscure phenomena of disease there is more scope for speculative ideas than for experimental research, at any rate for the forms of research which were possible in Hunter's day. It is therefore in his pathology much more than in his physiology, that Hunter employed the deductive method.

Thus he lays it down "as an axiom that two processes cannot go on at the same time in the same part of any substance."[5] Two different fevers cannot exist in the same constitution; nor can two local diseases be present in the same part at the same time. Such names as *rheumatic-gout*, which imply a combination of two diseases suggest a possibility of a union which according to Hunter's principle cannot exist.

Again, in his treatise *On the Blood, Inflammation and Gunshot Wounds*,[6] he adopts the principle, that the specific qualities in disease tend more rapidly to the skin than to the deeper seated parts; and he regards this as a law of Nature, similar to the principle by which vegetables always approach the surface of the earth.

The whole chapter on Sympathy in his *Principles of Surgery*[7] is full of deductive reasoning.

The doctrine of Health and Disease,[8] as explained by him, in his *General Principles of the Blood*, as well as in his *Principles of Surgery*,[9] illustrates his desire to build arguments on principles which he spontaneously assumed.

Still another instance of deduction is his reasoning from the hypothesis that the immediate cause of action is the same in both animals and plants, but that whilst in animals there is a greater quantity and variety of motion, in plants there is more real power. He illustrates this difference by the horse and the vine. The vine can raise a column of fluid five times higher than the horse's heart can do, the energy or power of the animal being weakened by being directed to several different purposes.[10]

Starting with the idea that the capacity of action both in animals and in vegetables is of three kinds, he hoped by studying every incitement to action—in reference to the power as distinguished from the quantity of action—that he or his successors would be able to arrive at fundamental truths as to the principles of organic motion.

In his *Treatise on Venereal Disease* his arguments are based upon the too hasty generalization that affections which admit of cure without the use of mercury are not venereal. He thus made the remedy the test of the disease, and sought to substantiate this preconceived idea by facts.

His attempts to prove that monsters are formed as monsters from their very beginning supplies another example of his use of deduction.

Through following the deductive method, Hunter neglected to take account of those "predisposing causes" of disease which could only be generalized from observation, and to which his English contemporaries who were inductive pathologists attached great importance. Hunter, indeed, denied the existence of "predisposing causes."

When reasoning deductively he so much relied on his premisses that he sometimes refused to accept any evidence by which they were impugned. In fact, when using the deductive method, he had the failing of all deductive reasoners of not placing full confidence in facts.

In his inductive investigations, however, he never disguised or perverted facts to make them tally with his hypotheses. Instead of endeavouring to render facts and theories consistent with one another, when they evidently were not, he would adhere to his hypothesis without blinking the facts. Thus he asserted that teeth are extraneous bodies without either circulating vessels, absorbents, or nerves, but when after transplanting teeth, he thought he had established the fact that they were "capable of uniting with any part of a living body,"[11] he explained this power of uniting by attributing to teeth what he called a "living principle."

His "Croonian Lectures"[12] on motion contain admirable examples of his employment of the combination of deduction and induction.

Buckle in his *History of Civilization* (vol. iii, pp. 432-5) attempts to explain the intimate union of deduction and induction in Hunter's intellect, by the fact that he was born and remained till his twenty-first year in Scotland, and afterwards passed the rest of his life in London, where he became socially and intellectually a native of England. "Hence," says Buckle, "the early associations of his mind were formed in the midst of a deductive nation, the later associations in the midst of an inductive one. The country of his birth made him deductive, the country of his adoption made him inductive. As a Scotchman he preferred reasoning from generals to particular facts; as an inhabitant of England he became inured to the opposite plan of reasoning from particular facts to general principles." And Buckle adds, "I make no doubt that one of the reasons why Hunter, in investigating a subject, is often obscure, is that on such occasions his mind was divided between these two hostile methods."

Buckle's line of argument is here purely deductive, and capable of being thrown into three or four strictly correct syllogisms—correct, that is, as to figure of syllogism, but not as to the ideas on which they are founded. Before accepting or rejecting Buckle's explanation, however, we must consider the premisses on which he bases his conclusion. Like many deductive reasoners, he assumed the truth of his major premiss without having examined the facts on which it rests. He, an Englishman, has argued like the Scotch he describes; his logic being good if we concede the general propositions from which he starts.

But can we concede them?

Is it true that philosophers who have passed their youth among a nation whose method is deductive, and their manhood among a nation whose method is inductive...

or vice versâ—have their minds divided between these two hostile methods, and, in consequence, are often obscure in their investigations?

The conclusion will be proved to be false if it can be shown that a philosopher may pass his youth in a country without ever coming under the influence of the national philosophic method.

This was the case with John Hunter; he never did come under the influence of the ordinary Scottish teaching. In Scotland the clergy had the control of all centres of education, both public and private, throughout the country. They directed what should be taught, and how it should be taught, not only by village schoolmasters and masters of grammar schools, but by the professors in the universities, and even by private tutors. Had John Hunter continued at school and proceeded to a Scottish university, he would of course have come under the influence of the deductive method.

But even if his education had been of the usual Scottish type, it does not follow that he would have adopted the Scottish philosophical method. His two brothers, James and William, who did receive such an education, did not adopt it; not even William, who was a resident pupil for three years, and a lifelong friend and correspondent of so thorough-going and so able a deductive reasoner as Cullen.

The courage shown by John Hunter when a boy of 12 years old, in a cottage scene described by his niece, Joanna Baillie, justifies the assertion that he was not imbued with the clerical teaching and superstitions prevalent at the time in Scotland. In the eighteenth century the most popular divines in Scotland, as well as the clergy generally, taught that Satan frequently appears clothed in a corporeal substance, and that he seized persons and carried them away in the air. When the preacher mentioned the name of Satan, the church resounded with sighs and groans, and the congregation were petrified with awe as they listened with gasping breath and hair standing on end. Such impressions were not easily effaced. Images of terror accompanied the ignorant people to their homes. No wonder, therefore, when a ghost in form of the devil appeared, whilst Hunter was chatting in a neighbour's cottage, that the cottagers, educated after this manner, were stricken motionless with fear, whilst young Hunter, brought up differently, attacked and drove away the apparition with the fire-tongs.

The second statement made by Buckle is that the conflict in Hunter's mind between deduction and induction darkened his understanding. I can no more accept Buckle's explanation of the occasional obscurities in Hunter's utterances than Buckle could accept Ottley's, namely, that they resulted "from a deficient education." I agree with Buckle that a deficient education no more makes a man obscure in his statements than a good education makes him lucid. With educated and uneducated alike, the power of clear expression depends on clearness of thought. When Hunter is obscure it is either owing to the complexity of his subject, or to his own mind being in doubt.

The adoption by Hunter of both methods—Deduction and Induction—was, in my judgement, the result of two causes: (1) the natural scope and bent of his mind, and (2) the nature of the subjects to which he devoted his life.

Induction is largely the method required for the profession he chose. Locke and Sydenham had left it on record that in their opinions the medical sciences to be properly pursued, ought to be approached by the Baconian method; and Hunter was one of a family, several members of which showed a great leaning towards and a marked aptitude for these sciences.

James Hunter gave up his profession as a barrister, and William, who was to have been a clergyman, abandoned the Church for Anatomy, Surgery, and Medicine; and John of his own free will, went directly into the medical profession. Their sister's son, Matthew Baillie, became the celebrated London physician and pathologist, whose medallion portrait is stamped upon the cover of the *Transactions of the Pathological Society of London.*

John Hunter was also a disciple of Bacon in that he employed induction in the pursuit of truth with an ulterior regard to utility and the good of mankind.

On the other hand, being a great thinker, he naturally inclined to the deductive method. But the tendency in this direction was not so strong with him as with the purely deductive philosophers. He had not the deductive force of Descartes which could build up a profound philosophy with mathematical precision and by introspective examination, starting from a single subjective principle, such as "*Cogito, ergo sum*"—"*Ego sum res cogitans.*"

It was not as a logician, but as an observer and experimenter that Hunter excelled; it was not the beauty of his logic, but the industry with which he collected facts, and the ability and honesty with which he reasoned from them, which made Hunter great. He naturally possessed the special requirements for induction—namely, a desire for knowledge, the love of inquiry, acuteness of observation, ingenuity in devising experiments, and the habit of taking nothing for granted which he could verify for himself. Had it been otherwise, John Hunter might have become a deductive pathologist of the Scottish type, like the only other great British pathologist of the eighteenth century—the illustrious Scotsman, William Cullen.

If it be true, and I do not think it is, that in Hunter's mind the two philosophic methods were in rivalry or conflict, and that this conflict led occasionally to confusion of thought and obscurity of language, the perplexity arose from the very comprehensiveness of his mind, and the grandeur and vastness of its conceptions.

If, on the other hand, as I believe was the case, he employed at will both deduction and induction, but did not succeed in fully co-ordinating or completely combining the two methods, that was only because, notwithstanding his wonderful genius, he yet fell short of being an absolute monarch of the whole kingdom of the intellect.

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An Address

ON THE

IMPORTANCE OF EARLY DIAGNOSIS WITH A VIEW TO SUCCESSFUL TREATMENT.

DELIVERED BEFORE THE WESTMINSTER DIVISION OF THE METROPOLITAN COUNTIES BRANCH OF THE BRITISH MEDICAL ASSOCIATION,

BY A. W. MAYO ROBSON, D.Sc., F.R.C.S.

MR. PRESIDENT,—May I express the pleasure it has given me to be the guest of the Westminster Division of the British Medical Association, and the great honour I feel in being invited to open one of your clinical debates?

The proposition I wish to consider is, Are there not many cases seen by all of us (but especially by those who are acting as the regular medical advisers to their patients) in which the early symptoms, though definite and pronounced enough to enable a diagnosis to be made, are treated by palliative remedies simply for the relief of symptoms, and only at a later stage, when disabling conditions have developed or dangerous complications have ensued, is the importance of radical treatment insisted on? Some of these cases are such as could be easily cured by medical and general treatment carried out thoroughly, and with a set purpose, if the disease were recognized at its onset; in others, after medical treatment had failed to cure, surgical measures adopted at an early stage could be undertaken with hardly any risk, whereas if left until serious complications have supervened, operative treatment, then absolutely necessary, can possibly only be carried out with considerable danger to the patient and great anxiety to the relatives and to the professional attendants.

The blame for procrastination when a diagnosis has been made and absolute rest or rigid diet or other radical treatment advised must often be laid at the door of the patient or the friends, though we cannot always exonerate ourselves from tacitly sanctioning it; for as a rule our patients are prepared to place confidence in our knowledge and

judgement and to be guided by us if we are definite in our opinion, and especially if in consultation we are in agreement.

Much of the blame undoubtedly lies in a reliance on the traditions of the past, when means of making a diagnosis were less exact, when more faith was placed in treatment by drugs, and when operation yielded such results that the physician and the general medical attendant were very properly averse to invoke the aid of surgery, either for purposes of diagnosis or for radical treatment.

Lest we might possibly run the risk of alarming our patients, I fear we are sometimes apt to reserve the many new means of diagnosis, such as an exhaustive pathological examination and examination by instruments of precision, to the later stages of illness, and not to place that reliance on them in the early conditions which daily experience shows they are worthy of being credited with—for instance, the early use of the sigmoidoscope where rectal examination by the fingers is negative, the employment of the *x* rays in obscure abdominal and thoracic conditions, a more thorough examination of the excreta and of the blood by a skilled pathologist, and many other means that involve the consent or even the co-operation of the patient.

It is quite unnecessary to dwell on the dangers of procrastination in the more obvious surgical conditions, such as strangulated bowel, perforative peritonitis and other similar catastrophes, where delay is well recognized to be dangerous, but I wish to draw attention specially to the disadvantages and dangers of procrastination, both in the diagnosis and in the treatment of that large class of diseases on the borderland of medicine and surgery, where a too prolonged medical treatment, quite capable of affording some relief, lulls the patient into a false sense of security.

Duodenal Ulcer.

Among this class let us first consider duodenal ulcer, now recognized to be a common ailment, often attended with the dangerous complications of haemorrhage and perforation, both of which accidents demand surgical treatment under most unfavourable conditions.

I want to ask the question why we should wait for these serious catastrophes before making a diagnosis and radically treating the condition, seeing that the symptoms of duodenal ulcer (pain three to four hours after meals, relief by taking food or by taking alkalis, pain recurring regularly in the night or in the small hours of the morning, flatulency, tenderness over the duodenum, rigidity of the right rectus and frequently the presence of occult blood in the motions), are so characteristic as to enable an early diagnosis to be made with almost absolute precision. Moreover, the disease in the earlier stages is curable in a large percentage of cases by medical and dietetic treatment alone, whereas if left until numerous relapses have occurred or complications have supervened, it can only be treated radically, by operation.

As soon as it is seen that medical treatment has failed to cure, or failed to prevent relapses, why should we wait until haemorrhage or perforation demands surgical treatment, when at an early stage the operation of gastro-enterostomy should prove curative with a modicum of risk—speaking not only from my own but from the experience of several other surgeons—of hardly over 1 per cent.?

Cholelithiasis.

I would next draw attention to cholelithiasis, which until comparatively recent times was considered a painful malady, seldom or never attended by danger, the numerous serious and fatal complications to which gall stones give rise being apparently ignored.

In an experience approaching 1,000 operations on the biliary tracts, in many of which I have had to perform extremely difficult and dangerous operations on patients in the last stages of illness from deep jaundice, infective cholangitis, persistent vomiting, suppuration in the gall bladder, perforation of the bile ducts, or exhaustion from repeated attacks of pain, it has been more and more driven home to my mind how much better it would have been had operation been advised at an earlier stage, when surgical treatment would have been quite simple and the probability of recovery approaching 99 per cent., arguing not only from my own but from the experience of others, both at home and abroad.

Under ordinary circumstances, nothing can be simpler than an operation performed for gall stones on a normal-sized or slightly distended gall bladder, before the concretions have entered the common duct, and before the anatomy of the parts has become completely disarranged by adhesions and contractions, and before serious complications, both local and general, have manifested themselves.

Not least among the dangers, if concretions are allowed to remain, is that of malignant disease. It is well recognized that chronic irritation is one of the most potent causes of cancer, and the constant irritation of gall stones is in this respect a danger that cannot be ignored.

I have operated on many cases of cancer of the gall bladder and bile ducts and in a very large proportion have found gall stones. Zenker found gall stones present in 85 per cent. of cases of cancer of the gall bladder, Musser in 69 per cent., Courvoisier in 74 out of 84 Jaile in 23 out of 30, Bertrand in 14 out of 15, Siegert in 95 per cent., and Brodowski in 100 per cent. of all cases examined. These facts cannot be ignored, and point so strongly to gall-stone irritation producing primary cancer of the gall bladder and liver that I think it ought to have weight with us in advising on the early diagnosis and surgical treatment of cholelithiasis.

Were the recognition of gall stones a difficult matter there would be much to say in favour of delay; but seeing that with comparatively few exceptions cholelithiasis may be recognized, even in the earliest stage (by the digestive symptoms with which it is associated, by attacks of discomfort in the epigastrium even before the characteristic symptoms are felt, by the irregular pain radiating round the right side to the shoulder blade, by the tenderness in the gall-bladder region, and by a careful pathological examination of the excreta, not for gall stones but for signs of disturbance in the upper bowel and the pancreas which are nearly always associated with early cholelithiasis), there can be little excuse for a failure to diagnose the condition. As soon as the later characteristic pains supervene, there is, of course, no need to wait for jaundice or the more serious manifestations in order to recognize the cause.

Here again medical treatment is capable of affording great relief. This it does not by causing dissolution of gall stones, but by relieving the catarrh and inflammatory conditions that are associated with them; but it does not remove the disease, and sooner or later patients who have been tided over the early manifestations develop complications of one kind or another that demand surgical treatment at a later stage and under much less favourable conditions. I have seen many such cases in which a diagnosis of gall stones had been made years before, but the relief of symptoms had put the patient in a fool's paradise, and only later, when serious complications had supervened or possibly cancer had developed, was the folly of delay made manifest. I proved many years ago—and an extended experience has further confirmed my observations—that the removal of gall stones can be undertaken at an early stage with hardly any risk, if the simple operation of cholecystotomy can be performed, but when the more formidable operations of choledochotomy, cholecystectomy, and other procedures have to be undertaken in the presence of jaundice, infective cholangitis or other serious conditions, the simplicity and safety of operation can no longer be urged.

Carcinoma of the Stomach.

This is one of the diseases which, if caught in an early stage, can be cured in a considerable proportion of cases. Unfortunately it is difficult of diagnosis in an early condition. No one has done more than Professor Osler to advocate an early diagnosis of cancer of the stomach, if needful by an exploratory operation, in order that radical treatment may be carried out at a time when there is a hope of cure; and if only this truth could be impressed on those who see these cases in an early condition, at a time when the symptoms are merely those of dyspepsia, and if, in such doubtful cases, a consultation were insisted on, so that the matter might be taken seriously at the earliest possible moment, we should find that much could be done for these otherwise hopeless cases.

When so little was possible from either medical or surgical treatment, the early diagnosis was of little moment

from a practical point of view, but now that surgery has proved it possible to remove cancer of the stomach, when seen early, before a tumour or other pathognomonic symptoms have developed, the importance of an early diagnosis cannot be too strongly insisted on. There is ample evidence to show that for some length of time cancer is purely a local disease, and just as in the breast, the tongue, and the uterus we can point to patients living comfortable and happy lives many years after the removal of the disease, so in gastric cancer it is reasonable to estimate, and, in fact, can now be proved by positive evidence, that a like result may be anticipated.

Whenever a patient at or after middle age complains somewhat suddenly of indefinite gastric uneasiness, pain, and possibly vomiting, followed by loss of weight and energy, especially if associated with anaemia, the possibility of cancer of the stomach ought to be entertained, and if no improvement takes place in a few weeks at the most, an exploratory operation is more than justified, and ought to be more frequently advised and carried out. Although a chemical examination of the stomach contents and a general examination of the patient may give strong grounds for suspicion, our diagnosis can often only be rendered certain by a digital examination, which may be effected through a small incision, that can, if needful, be made under local anaesthesia, and that without more risk, if in an early stage, than ordinarily attends the administration of an anaesthetic. I can point to patients living and well from whom I removed cancer of the stomach so long as eight or more years ago, and many other surgeons can give similar experiences.

Even at a later stage, supposing a diagnosis has not been made until a tumour has developed, operation is worth performing, as relief can be given and life prolonged by the operation of gastro-enterostomy. I am, moreover, firmly convinced that many deaths are ascribed to cancer when the disease is inflammatory, and perfectly curable by gastro-enterostomy without removal of the tumour; and did time permit of it I could relate a number of instances in which I have done this operation, because I thought the tumour of the stomach, which I believed to be cancer, was too large and too extensive to remove, in which the patients have made a complete and permanent recovery and are perfectly well now, years after operation.

Although there is no pathognomonic symptom of early cancer, the absence of free HCl in the gastric contents after a test meal is suspicious, as is also the presence of albumose in the urine, of blood in the faeces, and of Salomon's test—the finding of a certain amount of albumen in the stomach contents some hours after it has been thoroughly cleared by lavage.

Simple Ulcer of the Stomach.

This is another disease I would specially mention, as if diagnosed early and treated radically at first it is quite curable by medical treatment in a considerable proportion of cases, whereas if merely treated palliatively the disease is almost certain to relapse and to become chronic.

Only last week I operated on a lady who had suffered from stomach symptoms continuously for twenty years, during which time she had had every imaginable form of treatment. At the operation I found, as suspected, a large chronic ulcer along the lesser curvature of the stomach, which had led to a marked hour-glass contraction. This is a good example of many similar cases that I have seen, in which the patients, after suffering and being treated year after year for symptoms, which no amount of medical treatment could possibly cure, have had at last to submit to operation or to lose their lives. Had the disease in this case been diagnosed in an early condition and thoroughly treated by diet and rest, she might have been saved these twenty years of suffering.

Leube has shown that at least one-half to three-quarters of all cases of ulcer will be cured by early medical treatment, but if they are not cured in that time they will not be cured by medical treatment alone.

The more recent observations made at the London Temperance Hospital by Mr. Paterson and Dr. Rhodes on 158 consecutive cases, under the care of Dr. Soltau Fenwick and Dr. Parkinson, are still more striking, showing that the proportion of real cures in cases of confirmed chronic ulcer, even after prolonged treatment by diet and rest in hospital, is under 25 per cent. I have elsewhere given my views on this subject, and shown how safe and successful surgical treatment is—the risk, for instance, of gastro-enterostomy being very little over 1 per cent. But what I plead for now is an earlier recognition of the condition, so that adequate medical treatment may be applied in time, in order to save the necessity of having to appeal to surgery.

The symptoms of gastric ulcer are so well known as to need no further description now, and the serious complications of perforation, haemorrhage, hour-glass contraction, cicatricial stenosis, gastric dilatation, extensive perigastritis, perigastric abscess, inflammatory tumours, fistula, and others that could be mentioned, only go to prove how serious for the patient the want of early diagnosis and of radical treatment have been. Moreover, it is now clearly and definitely proved that chronic irritation due to long-continued ulcer is an undoubted cause of cancer, which complication might be prevented by an early diagnosis and treatment.

My conclusions are not the vain thoughts of mere imagination, but have come as the result of an experience approaching 1,000 operations of one kind or another on the stomach.

Ovarian Tumour.

To pass to an entirely different subject. I have operated some hundreds of times for large ovarian tumours, and many times with serious complications. The question has often crossed my mind during the operation, Why should these cases have been allowed to go on so long before being submitted to operation, when no amount of medical treatment could have done an atom of good, and they could have been recognized in their infancy by a bimanual examination, and removed with almost absolute certainty of recovery before any complications had supervened? Here an early diagnosis and early treatment would have saved the danger of suppurating cyst, twist of the pedicle, ruptured cyst with general peritonitis, and many other complications that are apt to supervene at all stages of this disease.

Cancer of the Uterus.

So much has been written recently on the importance of the early diagnosis and treatment of cancer of the uterus by an examination of all cases of irregular intermenstrual bleeding or post-climacteric haemorrhage that the subject need not be further dwelt on; nor is it necessary to labour the question of a careful examination of the rectum, if needful by the sigmoidoscope, in cases of rectal discomfort or haemorrhage in middle or advanced life in order to recognize and treat cancer in that region at the earliest possible moment.

Diagnosis of the Cause of Jaundice.

Although I should have liked to insist on the importance of an early diagnosis in appendix trouble and the desirability of absolute rest, of absolute starvation, and of the avoidance of the routine aperient in all cases of abdominal colic until a diagnosis of the cause has been established, by which many operations in the acute and dangerous stages might be avoided, and although I should have liked to dwell on the early diagnosis of cancer in various positions in order that a timely radical operation might be done, I must omit them for want of time, and I will only give one more example, and that is the symptom of jaundice and the early diagnosis of the cause with a view to successful treatment.

The onset of jaundice after 35 to 40 years of age is an important event that may herald a condition which will slowly yield to general treatment, which may demand operative treatment for its cure, or which may prove to be incurable. To treat such cases simply as catarrhal jaundice after medical treatment has been pursued for two or three weeks without relief, is to my mind unjustifiable procrastination.

Careful clinical and pathological investigation is therefore, from my point of view, incumbent on the medical attendant at a much earlier stage than is often considered necessary, as on the diagnosis will depend the treatment.

As I have recently given my views on the subject at some length before the North London Medico-Chirurgical

Society in a paper which has been accepted for publication, I need not enter at length into the various causes.

Gall stones in the common duct should be readily diagnosed, with few exceptions, by the previous history and by the attacks of pain, followed by an increase of jaundice, frequently associated with symptoms of infective cholangitis, and, as soon as diagnosed, I think they ought to be removed by choledochotomy before more serious complications supervene.

Jaundice of painless origin is seldom due to cholelithiasis, but, if due to interstitial pancreatitis, it may be diagnosed by a careful examination of the excreta, and by the discovery of the pancreatic reaction in the urine and the presence of urobilin, and by the discovery of an excess of neutral fat in the motions, and the evidence of an incomplete obstruction of the common duct as shown by the presence of stercobilin in the faeces. In many such cases, medical and general treatment, thoroughly carried out, will bring about relief or cure; but if the obstruction is persisting after a month, or at most six weeks, of treatment, the question of exploratory operation ought to be considered with a view to removing the cause, if that be possible, or of short-circuiting the obstruction where the cause cannot be taken away, for it is to be borne in mind that the circulation of bile in the blood tends to its deterioration, and to the production of a haemorrhagic tendency, which makes later operations more dangerous, whereas an early operation can be done with very little risk and a probability of recovery in 97 or 98 per cent. of cases.

If the clinical and pathological examinations give rise to a strong suspicion of cancer of the pancreas or of the common bile duct I would still advise exploration before the more advanced blood changes and changes in the liver owing to biliary congestion render even an exploratory procedure a matter of some anxiety and danger; moreover, it is a fact that a short-circuiting of the gall bladder into the duodenum has been followed by cure in quite a number of cases in which both my medical friends and I thought the disease to be undoubtedly malignant; but in any case, even if really malignant, relief to the distressing symptoms of jaundice may be given by a cholecystenterostomy and will be gratefully appreciated by the patient.

Were it necessary further to illustrate my proposition, it would be easy to give further examples of diseases in which an early diagnosis is of vital importance to successful treatment both medical and surgical, but where the mere treating of symptoms and a delay in making an exact diagnosis necessarily postpones rational treatment until the disease may be too advanced to yield to general and medical measures or possibly even too serious for relief by surgical treatment except at a greatly increased risk.

It was announced in the Journal of January 23rd that an anonymous benefactor had given £20,000 to the London Hospital Medical School, with the express stipulation that the interest accruing therefrom should be applied solely in furtherance of medical research. We learn from the *London Hospital Gazette* that the fund has been placed in the hands of the London Hospital Medical College Endowment Fund, Mr. Douro Hoare, the Hon. H. L. W. Lawson and Sir Frederick Treves, whilst the administrators are the Honourable Sydney Holland, Dr. Bertrand Dawson, and Dr. Henry Head. Although the administrators will be responsible for the manner in which the income of the fund is to be disbursed, they will invite the heads of departments to express their views, and will be ready to consider the claims and suggestions of individuals. The donation will form the nucleus of an endowment fund which, according to the scheme set forth in the prospectus, will be applied for the following purposes: (1) To secure the maintenance of the London Hospital Medical College in full efficiency and equipment, so far as buildings, laboratories, and apparatus are concerned, for the investigation of disease and its treatment, with a view to the lessening of human suffering; (2) to secure for the college the services of teachers and investigators of the highest standard; (3) to improve medical education generally; (4) the liberation of the college from its existing debt, which has been contracted in attempting to carry out these objects. The sum required for these purposes will be at least £150,000.

The Morison Lectures

ON THE

PATHOLOGY OF SYPHILIS OF THE NERVOUS SYSTEM IN THE LIGHT OF MODERN RESEARCH.

[*With Special Plate.*]

Delivered at the Royal College of Physicians, Edinburgh, Jan. 25th, 27th, and 29th, 1909.

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Lecture I.

Mr. President and Fellows of the College,—Allow me to thank you for the great honour of having been invited to give the Morison Lectures in this ancient College of a city so long renowned as a great seat of medical science and learning.

In considering the general pathology of syphilis of the nervous system, it is not necessary to refer to the different bacterial and other organisms which have been described by various authorities as being the specific agent in the production of the lesions characteristic of this disease before the discovery of the *Spirochaeta pallida* by Schaudinn. This organism, whether it be, as its discoverer believed, a protozoon or a bacterium or micro-organism between a protozoon and a bacterium, is regarded as the specific organism of syphilis by those best competent to judge—namely, Metchnikoff, Hoffmann, Neisser, Levaditi, Bertarelli, Shennan, and many others. Metchnikoff and Roux were the first to demonstrate experimentally the communicability of syphilis to animals, and to show that the nearer the animal approached to man the more the disease approached in its characters and virulence the human form of the malady. Thus, although other animals, especially apes and anthropoid apes, have been successfully inoculated, the chimpanzee alone reproduces with absolute certainty the human symptomatology. This is as we should expect, for the blood precipitin reaction of this anthropoid approaches most nearly that of man. The experiments of Neisser, Hoffmann, Bertarelli, Levaditi, and numbers of others have confirmed this important discovery, and many new facts have been added to our knowledge of the general pathology of syphilis by experiments on apes and other animals, and I would mention in particular the important discovery by Bertarelli that he was able to inoculate the spirochaete into the cornea of the rabbit and transmit it through a series of such animals. Levaditi has experimented successfully with the cornea from one of these animals, and not only transmitted it through a series of rabbits, but used the cornea infected with spirochaetes to produce an infection of the eyelid of an anthropoid ape. Lastly may be mentioned the important observations upon the bio-chemical changes in the fluids of the body by the Wassermann-Neisser-Brück method of serum diagnosis. Upon this tripod, of the discovery of the specific spirochaete, the communication of the disease to apes, and the serum diagnosis, a vast amount of most valuable work rests; the tripod is mutually supporting, and every day fresh evidence is forthcoming to strengthen the opinion that the true cause of syphilis has been discovered; that, although as yet no vaccine has been successful, this is no longer a hopeless outlook; and, lastly, a most valuable means of diagnosis of syphilis and parasyphilis has been obtained.

The Microbiology of Syphilis.

The *Spirochaeta pallida* examined in fresh preparations is seen with much greater difficulty than other coarser spirochaetes which may exist in the primary sores on the genitals or secondary papules of mucous surfaces. Hoffmann states, in order to find them, seek the edges of red blood corpuscles, to which they often are seen to be attached by one end (a process of chimiotropism). It is barely $\frac{1}{4}\mu$ thick, and possesses on an average 8 to 12 very regular, narrow, and very steep coils, the height of which at the ends diminishes somewhat (vide Figs. 1, 2, 3, 4 in Plate). The length of this corkscrew-like organism varies within wide limits, from a few up to

26 coils or even more. Examined with a paraboloidal reflecting substage condenser, by which living organisms appear light on a dark background, the *Spirochaeta pallida* can be seen to rotate on its long axis and oscillate to and fro with a pendulum-like movement, contrasting thus with the coarser and larger spirochaetes, which have an eel-like movement. An observation of Hoffmann showed that the untreated serum of a syphilitic patient caused a cessation of movement after about a couple of hours.

DIFFERENCE BETWEEN THE SYPHILIS SPIROCHAETE AND OTHER KINDS OF SPIROCHAETE.—(*Hoffmann.*)

Syphilis Spirochaete.	*Other Forms.*
1. Large size, 10 to 15 μ on the average, still often more than this. The extreme tenuity of the fibre ($\frac{1}{4}$ μ). This relation between length of fibre and its thickness is very characteristic.	1. Fibres relation to their length far thicker, therefore they have a plumper appearance; the finer forms are mostly shorter than the *Spirochaeta pallida.*
2. Very slightly refractile in fresh preparations, therefore only visible with the best apochromatic lenses.	2. Strongly refractile, and therefore easily seen in fresh preparations.
3. Ends are pointed, often terminating in long red threads.	3. Ends blunt. End threads seldom seen.
4. Movements screw-like around their long axis; lateral pendulum movements; movements forwards and backwards still less active, often remains a long time inactive anchored to a blood corpuscle whilst it exhibits rotatory and slight pendulum movements.	4. Lateral movement much more active, eel-like and sinuous, and more rapid change of position. Anchors to cells much less frequently, and detaches itself quicker.
5. The spiral possesses deep, steep, and very regular coils of corkscrew form. Fibre excessively thin in comparison to the length and depth of the spiral.	5. Coils flatter, irregular, in many forms (*Sp. dentium*) narrower fibres, thick and plump in comparison to the breadth of the coils.
6. Relation of the depth to the length of the coils mostly greater than 1—namely, 1.0-1.2; 1.0-1.5.	6. The known relation is smaller than 1.
7. Great elasticity and retention of the spiral form, therefore with more difficulty deformable.	7. Softer and more pliable, therefore the form is more changeable.
8. Only trifling variations in breadth in respect to the form; only the length, therefore also the number of coils, variable.	8. Greater variability, all transitions from small to large, from thick to thin examples.
9. It is coloured by Giemsa red (general scattered chromidial substance).	9. Colour more bluish-red; nuclear rod or rod nucleolus in plasma often demonstrable.

Schaudinn and Hoffmann were able to prove that the *Spirochaeta pallida* is found in all cases of syphilis, and is never found in any other affections. They also discovered spirochaetes in fresh preparations, not only on the surface of the chancres and papules, whether of the skin or mucous membranes, but also in the depths of the tissues and in the juice of enlarged inguinal glands of syphilitic cases. Metchnikoff, Roux, and Levaditi have demonstrated the presence of the spirochaetes in chancres on the face and penis of monkeys in association with other organisms; they also found the spirochaete in papules. Buschke and Fischer discovered spirochaetes in abundance in the liver and spleen of an infant affected with congenital syphilis, and Levaditi demonstrated numbers of spirochaetes in the fluid contained in the bullae of pemphigus occurring in a congenital syphilitic infant. Since then an ever-increasing army of workers have, with a few notable exceptions (Saling, Schulze), supported the discovery of Schaudinn. In fact, this organism has been shown in every possible lesion which is definitely syphilitic (Metchnikoff). In some cases they cannot be found in the primary sore unless a very careful search is made, and even then the search may not be successful. The same applies, with even more force, to the secondary eruptions.

The spirochaetes have been discovered in the capillaries of the skin and in the perivascular tissue. Although only occasionally found in the blood, the spirochaetes are more numerous in the lymph and lymphatic organs in general, and, according to Metchnikoff, their presence in lymphatic vessels may be said to be constant in syphilis, and it is at times possible to see a very large number in the perivascular spaces although their number in the corresponding blood vessels may be exceedingly limited. I have examined a number of primary sores, mucous tubercles, and cutaneous papules sent to me from the lock hospital, also fetal tissues and the tissues of several congenital syphilitic infants, and in all cases smears have shown spirochaetes by the Giemsa method, sometimes, however, only after long and diligent research. In one case of secondary papules I found the spirochaetes by the Levaditi method, although I was unable to find them in the blood. When the disease becomes generalized and there is a polyadenitis, the organism can be found in glands far removed from the primary lesions; thus Lewandowsky found spirochaetes in the juice of the epitrochlear gland. It is presumed that for a short time, perhaps some hours, the organisms remain in the lymph clefts and spaces of the tissues at the point of inoculation; there it multiplies, and in a short time extends into the lymphatics and produces microscopic changes, although macroscopic changes are not visible. In confirmation of this it may be mentioned that Levaditi and Yamanouchi have inoculated the chimpanzee with syphilis, and at a time when the point inoculated did not show the slightest microscopic indication of primary syphiloma they were able to detect an active pullulation of spirochaetes and specific histological changes. The same investigators have recently published some very interesting researches upon incubation in syphilis. These observers, by a series of observations on keratitis in the rabbit, induced by introducing a small portion of an infected cornea into the anterior chamber and by killing the animals at varying periods of time afterwards, also by introducing the infected cornea of the rabbit beneath the skin of the eyelid in apes and a chimpanzee eyelid and examination of the tissues for spirochaetes by the Levaditi method, formulate the following conclusions: The period of inoculation which precedes the manifestation of the primary syphiloma of the monkey and the specific keratitis of the rabbit is not due to the existence of an evolutional cycle of the *Treponema pallida.** It corresponds to the slow but progressive histological lesions provoked by the pullulation of the microbe of syphilis. This pullulation is not marked at first, in consequence of a defective assimilation, caused on the one hand by a change of medium, and, on the other, by the conditions which preside over the supply of nutritive materials. But, as soon as the vessels and new-formed cellular elements assure to the treponema the nutritive principles of which it has need, the multiplication by the parasite becomes active, and puts an end to the period of incubation.

The organisms after local development at the point of inoculation in man and in the anthropoid ape soon reach the nearest lymphatic glands, where probably they again multiply in the lymph sinuses and spaces, setting up an adenitis; these changes may be biological, provoked by the organism for its perpetuation, and not altogether in the nature of a defence on the part of the tissues against the invasion by the organism. The living organism usually prevails and passes into the general lymph stream, causing polyadenitis and an infection of glands remote from the seat of inoculation. The organisms may thus find their way into the thoracic duct, and a general infection of the blood stream takes place, with the development of the secondary eruption (roseola). Moreover, a profound bio-chemical change occurs in the blood and fluids of the body. Occasionally, as first pointed out by Lang, and as I myself have observed in several cases, quite early in the disease, even before the primary sore is healed, symptoms pointing to meningitis may occur; also, as will be pointed out later, and which I have seen illustrated by many examples, the most severe and the most intractable cases of brain and spinal syphilis occur within the first twelve months after infection; it is quite probable that the meninges were infected at the time of the roseolar rash in some of these cases, but the symptoms occurring then were slight and overlooked. Not infrequently severe symptoms of meningitis have occurred within a few months of the primary sore. I have had one case in which well-marked signs of meningitis occurred while the sore was yet unhealed. It is reasonable

* Some authors prefer this term to *Spirochaeta pallida.*

to suppose that if the spirochaete is the cause of the secondary cutaneous eruption by a sort of metastatic process in the skin capillaries, the same may occur in the meninges. The following case reported by Gautier and Maloizel is interesting in this respect, and tends to support that conclusion: A young woman affected with secondary syphilis had seven successive attacks of cutaneous eruption, simultaneously with sudden fever, headache, stiffness of the neck, and vomiting, accompanied by lymphocytosis of the cerebro-spinal fluid—a complex of symptoms of syphilitic meningitis. Again, Boidin and Weil have reported a most interesting case of a young man, aged 18, who had (1) a hard chancre in the middle of June; (2) headache in the middle of July; symptoms of meningitis and lymphocytosis of cerebro-spinal fluid August 5th; roseolar rash August 12th. Cure of the meningitis by inunction August 17th.

It is a pity that some of the fluid of such cases was not used for experimental inoculation on an ape. So far only Hoffmann has succeeded in showing that the cerebro-spinal fluid may be infective, for he has successfully inoculated a monkey with the cerebro-spinal fluid obtained blood free, and taken with all precautions from a man suffering with a papular syphilide. Neisser states that Dohio and Tanaka have found spirochaetes in the cerebro-spinal fluid in the case of a patient with a papular eruption; a second examination, as well as one by Neisser himself, was unsuccessful. It may be that centrifuging a fluid of such low density would disintegrate such delicate organisms. Again, we know that it is not infrequently impossible, except by culture or inoculation, to find tubercle bacilli in the cerebro-spinal fluid of tuberculous meningitis. Until experimental investigations have been made with fluid obtained from early acute cases of syphilitic meningitis, the absence of the organisms upon microscopic examination, and failure of experimental inoculation is no valid argument against their being the cause of the meningitis. It may be said that if the spirochaetes are the cause of the meningitis, they could be shown in sections or in films of the exudation. It is seldom that syphilitic meningitis is rapidly fatal, and cases would rarely come under early enough observation; moreover, not more than 1 or 2 per cent. of syphilized persons suffer with *obtrusive* symptoms of meningitis, and they seldom die in consequence thereof, and still more rarely do they die for at least some months after the onset of symptoms. I have been unable by the silver or Giemsa method to find spirochaetes in the exudation of typical cases of syphilitic meningitis. But I was unable to find trypanosomes in the similar cell infiltrations of the meninges and perivascular spaces of sleeping sickness, although I have examined quite a thousand sections obtained from 30 cases. Yet, it cannot be doubted that the *Trypanosoma gambiense* is the exciting cause of the meningo-encephalitis.

Syphilis is characterized by being an eruptive malady following the inoculation of the virus, presumably the spirochaete of Schaudinn, and by the possibility during the remainder of the life of the individual of fresh eruptions occurring in connexion with the existence of the virus in the body. A blow may be followed by a gumma, or a syphiloma may occur spontaneously in any part of the body at any period of time after infection. Microscopic examination shows that essentially the same tissue reactions occur in these late manifestations of syphilis as in the primary or secondary stages. It is well known that tertiary lesions are, as a rule, non-infective; consequently we should not expect to find the active agent, or what we believe to be the active agent—*Spirochaeta pallida*—except in a few instances, and then only in small numbers. This is actually what has occurred. For a long time attempts to prove the existence of the spirochaetes in tertiary lesions failed, and this led to the not unwarrantable view (which may be true) that the organism may exist in a latent and attenuated, possibly intracellular, form, and it is possible that late manifestations may be the result in some cases of secondary lesions which have remained latent until raised into activity by some exciting factor, such as exposure to cold, trauma, and toxaemia—microbial or otherwise. For at no period after infection may not such syphilitic meningitis occur. I have described a case of congenital syphilis in which cerebro-spinal meningitis occurred in a girl of 16. I was unable, however, to find spirochaetes, although the meningitis was very active and typically syphilitic in its histological character. It must be admitted that this is a part of the microbiology which is unsatisfactory. The spirochaete, however, has, in a few instances, been found in a gummatous tumour. Schaudinn found it in a gumma of the liver. Blaschko recently claims to have discovered spirochaetes in scrotal papules which occurred sixteen years after infection. Reuter and Schmorl claim to have found spirochaetes in syphilitic aortitis embedded in the proliferated intima between the fibrils, sometimes in places in which regressive changes are absent. Moreover, Benda claims to have demonstrated typical spiral, straight, and granular forms of the spirochaetes in the external layer of the media, and still more in the connective tissue adjacent to a patch of syphilitic endarteritis. Just as there are, relatively, but few successful observations proving the existence of spirochaetes in tertiary lesions, so there are, relatively, few successful experiments of inoculation of animals from tertiary lesions. Hoffmann has, however, succeeded in inoculating an ape from a gumma occurring in a man three and a half years after primary infection. It has already been stated that the *Spirochaeta pallida* is an organism between a bacterium and a protozoon, and in spite of the divergent views respecting the classification of spirochaetes, there are, in my judgement, more characters linking them to the protozoon than to the bacterium. The *Spirochaeta pallida* contracts, moves, and modifies its structure in a manner different to a bacterium. The appearance of resting forms is totally different, and they arise in a different manner to the spores of bacteria (Prowaczek). Again, the clinical aspect of affection from spirochaete invasion differs from that of bacterial diseases, and conforms especially to certain trypanosome infections. There is a periodicity of the symptoms altogether unknown in bacterial diseases. But, what has struck me from my own personal experience and knowledge, is the great similarity of the histological lesions of the nervous tissues of chronic trypanosome infections—for example, sleeping sickness and dourine—to syphilitic and parasyphilitic lesions (vide Plate). The universal perivascular infiltration in the central nervous system of lymphocytes and plasma cells was thought by Nissl and Alzheimer to be pathognomonic of general paralysis and syphilis, but I have shown that exactly the same occurs in sleeping sickness. In the *mal de coit* of horses an ataxic paraplegia occurs, and I have found, in five specimens sent to me by Dr. Lingard from the Imperial Bacteriological Institute of India, posterior root degeneration and

DESCRIPTION OF FIGURES ON PLATE.

Fig. 1.—*Spirochaeta pallida*, smear preparation of condyloma, stained by Giemsa solution. Magnification, 3,400.

Fig. 2.—Another portion of the smear, showing appearances of two spirochaetes twisted around one another; possibly this is the result of longitudinal fission. Magnification, 3,400.

Fig. 3.—*Spirochaeta pallida* from smear preparation of mucous tubercle. Magnification, 1,800.

Fig. 4.—Section of spleen from a case of congenital syphilis, stained by the Levaditi method. Magnification, 1,400.

Fig. 5.—Perivascular infiltration with lymphocytes and plasma cells, stained with polychrome blue, from a case of gummatous cerebro-spinal meningitis. Magnification, 250.

Fig. 6.—Section of central nervous system from a case of sleeping sickness in a European, showing perivascular infiltration with lymphocytes and plasma cells. Magnification, 250.

Fig. 7.—Section of a small vessel showing the sheath infiltrated with lymphocytes and plasma cells and with proliferated glia cells. Experimental sleeping sickness in an ape. Magnification, 320.

Fig. 8.—Section of cortex cerebri from a case of sleeping sickness in a European, stained to show the neuroglia. Magnification, 450.

Fig. 9.—Section of brain of ape infected with *Trypanosoma gambiense*, showing perivascular neuroglia cell hyperplasia. Magnification, 320.

Fig. 10.—Blood smear from a case of sleeping sickness, showing *Trypanosoma gambiense*. Magnification, 2,000.

Fig. 11.—Blood film showing *Trypanosoma brucei*. Magnification, 1,700. It will be observed that it would be difficult to decide the nature of the parasitic organism by morphological characters alone.

All the figures, with the exception of 7 and 8, are photomicrographs; these two figures are from drawings made by Dr. Edgar Schuster.

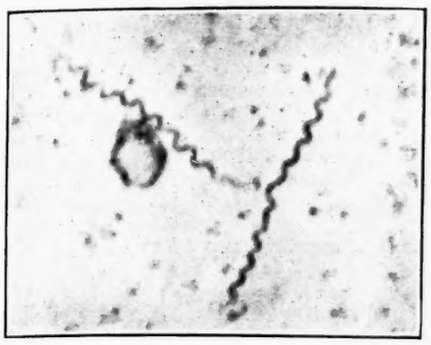

Fig. 1.

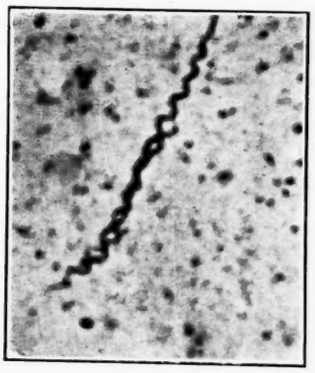

Fig. 2.

Fig. 4.

Fig. 5.

Fig. 3.

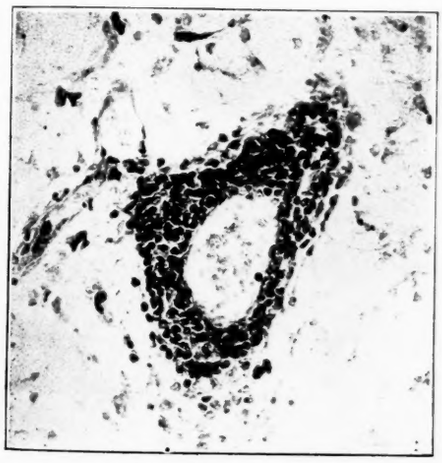

Fig. 6.

Fig. 7.

Fig. 8.

Fig. 10.

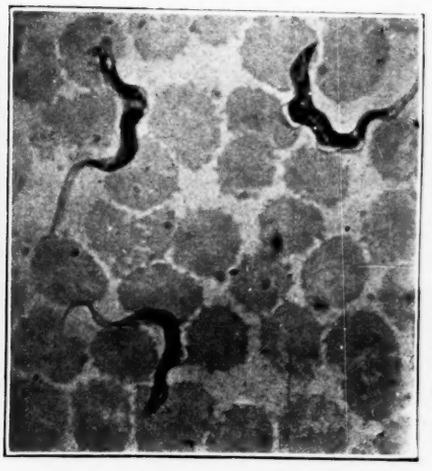

Fig. 11.

Fig. 9.

sclerosis of the posterior columns of the spinal cord. Spielmeyer has obtained by experimental trypanosome infection of dogs a lesion of the posterior columns of the spinal cord simulating the ataxic lesion; he has also produced optic atrophy. Again, there is similarity in the fact that lymphocytes and plasma cells are found in the cerebro-spinal fluid in trypanosome diseases of animals and man—for example, sleeping sickness. Moreover, Levaditi has shown that, in point of view of sensibility in respect to haemolyzing poisons, blood corpuscles, spirochaetes and protozoa constitute a homogeneous group, and the spirochaetes correspond in this respect more to the protozoa than the bacteria.

The study of all these diseases is primarily biological. The contagium vivum is a living organism whose activities, like that of all living organisms, are for self-preservation and the preservation of the species. The chemical toxin which the organism produces is to enable it to live and multiply. The spirochaetes consist of a viscid plasm covered with a membrane which serves as a means of osmosis. This osmotic membrane is a lipoid substance, like that which forms the membrane of the red corpuscles, and is sensitive to haemolyzing substances.

The fact that Castellani has discovered a spirochaete, which he terms *Spirochaeta pallidula*, in yaws is of importance in showing that a spirillary organism not quite morphologically identical with that of syphilis is probably capable of producing a chronic disease in many of its features not unlike syphilis. It might be argued that all the postulates laid down by Koch have not been fulfilled, and, therefore, that we have no right to claim that the *Spirochaeta pallida* is the specific organism of syphilis. Thus the organism, although it has been grown in celloidin capsules, has not been cultivated on an artificial medium outside the body, and the disease reproduced by injection of such a culture. But the same argument might be applied to certain established protozoal diseases—for example, malaria and sleeping sickness.

Dourine may almost be regarded as the syphilis of equines, for it is characterized by an infective sore on the genital organs, affection of the nearest lymphatic glands, then infection of the blood stream followed by successive eruption of plaques; and, as in syphilis, so in dourine and sleeping sickness, the juice of the lymphatic glands, in a condition of acute swelling, shows the specific organisms more readily than the blood films. The trypanosomes may disappear from the blood entirely, even without the administration of drugs, and reappear, giving rise to an irritating eruption of papules and fever, and the trypanosomes can be found in smears obtained by scarifying the papules more readily than from smears of the blood. This was demonstrated by Lingard in the case of *mal de coit* of horses, and by the French observers in a case of sleeping sickness. So, also, in syphilis I have been able to find an abundance of spirochaetes in the secondary papules of the skin, although I was unable to find them in the same cases in the blood films. It is a remarkable fact that Neisser was unable to inoculate animals by injecting the virus into the blood or into the organs; success was only obtained by scarifying an epiblastic skin surface and rubbing in the virus. This is precisely the seat of eruptions and pullulation. It looks as if the organism, to perpetuate the species, must find its way out of the body in the way it came in. Sir Patrick Manson (Huxley Lecture) expressed the opinion that, by analogy, we must presume that all trypanosome diseases are carried by some biting insect which acts as alternate host. But dourine spreads in the same way as syphilis. It is quite possible that the *Trypanosoma equiperdum*, which differs very little from the *Trypanosoma evansii*, may be this trypanosome which has acquired the habit of pullulation in the mucous cutaneous orifices, and, when infection occurs, always tends to get back there. In syphilis the same habit may have been acquired. It is known that mucous tubercles and condylomata (secondary eruptions) are more infective than the primary sore, and contain immense numbers of spirochaetes. Similarly, upon reading Lingard's experiments, I find he mentions that the *Trypanosoma equiperdum* was found in great abundance sometimes in the vaginal mucus when it could not be found in the blood. Again, he was more successful when he inoculated animals by scarifying the genitals and inoculating with blood from a papule or with vaginal mucus than when he injected the blood into animals. These facts accord very much with Neisser's experiments, and would seem to indicate that a habit had been acquired by the *Trypanosoma equiperdum* of developing in the mucous membrane of the genital organs, and of using this acquired habit as the means of preserving the species.

Finally, the therapeutic agents, mercury and arsenic in the many forms employed, are specific for both trypanosome and spirochaete affections. They are not of much use for bacterial infections. Mercury, particularly in the form of inunction, is especially valuable; and this may be owing to the fact that it prevents the pullulation of the spirochaetes on the surface of the body, including the mucous orifices, a habitat which these organisms have found particularly favourable for perpetuation of the species by transmission to another individual. Mercury, moreover, administered in any way, tends to come out by the skin, as can be readily demonstrated.

I have pointed out that, practically, the morbid tissue changes in syphilis are similar, whether the lesion be the primary sore or a gumma twenty years later; moreover, it is difficult to understand how the spirochaete, seeing that it has hardly ever been found in tertiary lesions, can produce the same specific cell hyperplasia so long after the primary infection. The following hypotheses may be put forward to explain the phenomenon of a gumma appearing spontaneously in the central nervous system long after the primary sore and apparent cure of the disease:

1. The spirochaete, or some modified form of it, has remained latent in the tissues at the seat of the lesion, and, for some reason, inherent or otherwise, the resistance of the tissues at that particular spot has become lowered, and the organism has exerted again its specific activity—possibly in some not yet discovered intracellular form.

2. The specific organism has remained latent in some other tissue—for example, the marrow of bone, the spleen or glands—and, escaping into the blood or lymph circulation, has, like a new growth, engendered a metastasis, which has developed and increased, producing a hyperplasia of the fixed tissue cell elements, conjunctival and endothelial.

3. There may be varieties of specific spirochaetes, one of which may have an elective affinity for the central nervous system, as we know the *Trypanosoma gambiense* has. It is difficult to differentiate this trypanosome from other forms by morphological appearances (vide Fig. in Plate); how much more difficult would it be to differentiate varieties of *Spirochaeta pallida*?

4. The invasion of the body by the spirochaetes has altered the blood and lymph bio-chemically, so that the tissue reactions to all causes which would lead to injury may take on the specific character.

Thus a blow on the head, vascular stasis, or some inherent weak spot may become the seat of a gummatous process. Although we are only beginning to unravel these biological problems, the evidence so far appears to be in favour of the fixed tissue cell hyperplasia with subsequent necrobiosis being a reaction to the influence of the specific organism. The fibrosis may be regarded as the attempt on the part of the tissues to repair the damage done in the struggle between the specific virus and the tissues; it is accomplished by the young connective tissue cells which have survived the fray; these are converted into fibroblasts and eventually into sclerous fibrous tissue. The amorphous caseous material is the residuum of the dead cells and organisms, especially the former, which, owing to the toxic influence of the virus and the cutting off of the vascular supply, have undergone nucleolysis and plasmolysis. The organisms, when found, are not discovered here when the struggle is past, but at the growing edge, where the new blood vessels and embryonic cell hyperplasia is most active; for it is here that the organism finds pabulum for its multiplication.

LECTURE II.

IN my last lecture I endeavoured to point out some facts and hypotheses of the biological problems of syphilis, especially in relation to disease of the nervous system. To-day I wish to draw your attention to modern researches bearing upon the bio-chemical changes which occur in the tissues and fluids of the body as a result of the entry and persistence of the syphilitic virus in the body.

I must, however, first make a slight digression, in order that you may obtain a better understanding of the altered bio-chemical conditions; this digression refers to the nature of lipoids—substances which have recently, in connexion with haemolysis, attracted a great deal of attention, and I wish here to acknowledge my indebtedness to Dr. Rosenheim for valuable information. "There seems to be a good deal of truth in the opinion of Bang that the importance of proteins as carriers of life (*Träger des Lebens*) has been over-estimated, while that of the lipoids has been neglected." Pflüger and most physiologists have taught that the vital activities depended essentially upon proteins. Bang contested this exclusive view. The name "lipoid" was given by Overton to *fat-like* substances which are contained in the cells of all living things, animal and vegetable. They were named by Waldemar Koch "lecithans," but this name has not been adopted. These lipoids may be divided into three groups: (1) N and P-free cholesterin, fatty acids, and lipochromes; (2) nitrogenous but P-free cerebrosides; (3) phosphatides containing both N and P. Of these, the most important are the mono-amino phosphatide *lecithin* and the di-amino-phosphatide *sphingomyelin*.

These lipoids were, until recently, considered of little importance; in fact, cholesterin was looked upon as a physiological curiosity by virtue of the fact that its crystals had a chip out of one corner, and little else was said about it except that it was contained in the red blood corpuscles and formed the principal constituent of gall stones. Lecithin was known to be a constituent of the red corpuscles, but it was not until Flexner and Noguchi's experiments on cobra venom had been published that the importance of these bodies in the action of toxins aroused attention. They found that cobra venom contains two poisons, a neurotoxin and a globulin which has the property of dissolving red corpuscles. If, however, they washed the red corpuscles free of serum, the cobra venom no longer had a haemolyzing action; but, on adding serum to the washed corpuscles, an addition of cobra venom produced haemolysis. Clearly something was contained in the serum which interacted with the venom to produce the result. Kyes showed that the activator is soluble in alcohol and in ether, and he finally identified the substance as lecithin. But cholesterin, another lipoid, has the property of counteracting the activating effect of lecithin on cobra venom. This antagonism of cholesterin and lecithin points to some bio-chemical or bio-physical relationship between the two bodies. Moreover, this relationship as regards osmotic membranes and haemolysis has been experimentally put to the test by Pannucci. This observer constructed glass cells covered with a membrane impregnated with lecithin and cholesterin; in these he placed haemoglobin solution, then suspended in the toxin solution; the haemoglobin behaved differently as regards diffusion according to the proportions of these substances in the membrane. If we regard the red blood corpuscles as consisting of a sponge-like protein stroma holding the haemoglobin in solution, the whole being covered with a membrane consisting of a properly adjusted complex of the lipoid substances, cholesterin and lecithin, then we may suppose that haemolysis occurs as a result of a chemical or physical disturbance of the balance between the cholesterin and lecithin. This idea of an osmotic membrane to the red corpuscle was, as far as I am aware, first pointed out by Professor Schäfer in the section, Blood, *Quain's Anatomy*, 1893. In haemolysis the membrane is either dissolved by the action of a ferment or a physical change occurs in the membrane, by which it becomes permeable to the large haemoglobin molecules; whereas in its natural perfect state it will only allow the smaller ions Ca, Na, and K to pass through (Fig. 12). It is probable that all cells and unicellular organisms possess similar osmotic membranes, and that the lysis of these organisms depends upon physical or chemical changes in the osmotic membrane, which is termed a "periplasium." The importance of this question is obvious in regard to cytolysis, bacteriolysis, and protozoolysis, and it will become especially apparent when we come to the study of the Wassermann reaction of the deviation of the complement in the sero-diagnosis of syphilis.

In regard to the origin of lipoids, especially in pathological conditions, it is necessary first to refer to an important paper by Munk just published. This observer has used the polarizing microscope to distinguish between fat and lipoid in cells; the latter is doubly refractile when the Nicol's prism is rotated. Ambrose and Held made use of this method for determining the existence of the myelin sheath in the anterior and posterior roots of the embryo. Munk finds that the existence of lipoid driplets in the cell is associated with dissolution of the nucleus and destruction of the cell. Rosenheim remarks that the phosphatides may form a link with the cell nucleins, which possibly obtain their necessary supply of P from this source. A lipoid substance in great abundance, then, means cell dissolution, the nucleus highly charged with phosphates and the cell protoplasm breaks up into a lipoid complex as a result of the nucleolysis and plasmolysis. It may be suggested that Levaditi's experiments show that the spirochaetes stimulate the fixed tissue cells to proliferate, and then, invading this bed of young cells rich in nuclein, they, by the action of some secretion or otherwise, cause these same embryonic cells to undergo lysis, thus providing the necessary pabulum for their own growth and proliferation. It is probable these young cells are more easily attacked than the older cells, and this may be the reason why the spirochaetes are found in such great abundance in fetal tissues, and why the fetal tissues, especially the liver, contains such an abundance of lipoid substance serving for the Wassermann reaction, although chemically it does not differ from lipoid substance which can be obtained from normal tissues.

We are now in a better position to consider the serum diagnosis by the Wassermann and other methods dependent upon bio-chemical changes induced in the body by the introduction of the syphilitic virus whereby immunity to future inoculation is effected; and which, in my opinion, lies at the root of the late degenerative processes occurring in the central nervous system, and which are collectively termed parasyphilitic.

Although it has now been ascertained that the syphilitic virus induces in the body metabolic changes whereby larger amounts of lipoids occur in the serum, and also in the cerebro-spinal fluid in general paralysis and tabes, yet these same lipoids are found in the normal tissues and fluids, the specific character is manifested by quantity rather than quality. The substances which in haemolysis play the part of *antigens* are lecithins, combined with other substances, especially soaps (Rondoni and Sachs), and those which play the part of *antibodies* are possibly complexes of cholesterin. Yet, although in describing the Wassermann and other methods and the evolution of the knowledge concerning the same the terms "antigen" and "antibody" will be used, yet it is better to state at once that they do not conform to the antigen and antibody of bacteriolysins, and that the deviation of the complement (or fixation of the complement) may possibly depend upon the presence of these two kinds of lipoids, which we have previously seen play such an important part in the action of cobra venom.

The Serum Diagnosis of Syphilis by the Wassermann Method.

To explain the principles of this method it is necessary to make a few introductory remarks regarding its origin. Bordet, in 1901, discovered the phenomenon known as the absorption or deviation of the complement. At about the same time Gengou discovered a similar phenomenon when working with precipitins. Wassermann, Neisser and Brück, Levaditi, Citron, Plaut, Stertz, and others have applied this method of the absorption of the complement of Bordet and Gengou to the diagnosis of syphilis by the existence of syphilitic antibodies and antigens in the blood serum and cerebro-spinal fluid of persons suffering with primary, secondary, and tertiary syphilis, as well as in the post-syphilitic, parasyphilitic, or late syphilitic affections—namely, tabes and general paralysis. The epoch-making experiment of Pfeiffer on bacteriolysins may be said to have afforded the foundation of our knowledge of the principles governing immunity. Bordet by his observations came to the conclusion that bacteriolysis by the serum of an immunized animal was due to the presence of two substances, the one destroyed by heat (thermolabile) present in normal serum, the other (thermostabile)

a substance which resisted heat, and was only present in the body fluids and blood of an immunized animal. The former is called the cytase or complement, the latter the immune body or antibody (amboceptor, Ehrlich).

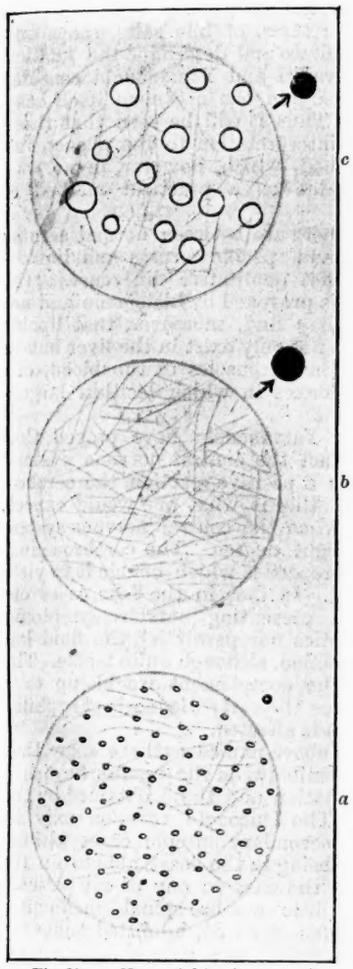

Fig. 12.—*a*, Normal blood corpuscle with osmotic membrane permeable to ions of Na, K, Ca. *b*, Chemical explanation of haemolysis by dissolution of osmotic membrane and escape of haemoglobin. *c*, Physical explanation of haemolysis by a bio-physical alteration of the osmotic membrane by which it becomes permeable to the large haemoglobin molecules.

Bordet and others, by experiment, found that if the corpuscles of one animal were injected into another, these corpuscles disappeared with the production in the serum of a specific haemolysin analogous to the bacteriolysin; the haemolytic properties of the serum being due to a specific antibody (immune body) linking up the cytase or complement to the corpuscles. This important discovery led to the possibility of the study of the theory *in vitro* and its practical application to the diagnosis of disease. The same principles determine the production of haemolysins as bacteriolysins, and the solution of experimentally sensitized corpuscles can be used as a precise index of the presence or absence of one of the two unknowns—namely, (1) the antigen, (2) the antibody or immune body. The thermolabile substance cytase (Bordet) or complement (Ehrlich) is contained in normal serum. Bordet holds that there is only one complement in normal serum, and, contrary to Ehrlich, that it is not a specific substance for each antigen, but specific for each animal. Bordet has introduced the terms "antigen" and "antibody," the former to signify any substance which, when injected into an animal, will cause the production of an immune serum; the latter to denote the antagonizing substance produced and which is the essential for the immunizing action of the serum. Now, if either the antibody or the complement be not present, or be removed, the specific bacteriolytic or haemolytic action of the serum or fluid is lost. Again, if the antibody in the presence of the complement is linked up to the antigen, both the antibody and the complement will be inactivated. To find out if a given serum or fluid—for example, cerebro-spinal fluid—contains either the antigen or the antibody is by the experimental inductive method known as the *deviation of the complement*. How is this effected?

We require first to immunize an animal against the blood of some other animal; for this purpose the blood corpuscles of a sheep are injected into the circulation of a rabbit. The blood serum of the rabbit is thus made haemolytic to the corpuscles of the sheep by virtue of an immune body *plus* the normal complement or cytase. The latter can be removed by heating to 56° C. for thirty minutes without destroying the former. We have thus the immune body, which by itself will not dissolve the washed corpuscles of the sheep. If, however, we add the normal serum of a guinea-pig, the amboceptor or immune body links up the complement or cytase and the corpuscles are dissolved.

The second part of the experiment is the deviation of the complement, or its neutralization, so that haemolysis no longer takes place when the serum of the guinea-pig is added to the immune body and the washed sheep's corpuscles. This is effected by the presence of both antigen and antibody in the fluid to be examined. The serum, or cerebro-spinal fluid, to be examined is mixed in varying dilutions with a watery solution of the liver of a syphilitic fetus, which will contain the antigen (lipoid). A small amount of the serum of a guinea-pig is then added, and the total volume made up to 2 c.cm. with saline solution. The series of tubes containing these mixed solutions are placed in an incubator at 37° C. for one hour, and then the sensitized blood corpuscles are added. (By sensitized corpuscles I mean washed sheep's corpuscles in immune rabbit's serum which has been heated.) The mixtures are again placed in the incubator for two hours at 37° C., then taken out and put on ice overnight. The next morning the amount of haemolysis in each tube is estimated (vide Fig. 13). If, on the one hand, antigen and antibody have been present they have united with the complement, and no solution of corpuscles will have taken place because the complement is fixed; if, on the other hand, the immune body (antibody) was not present then the complement (cytase) has remained free to act upon the sensitized corpuscles and lead to their solution. A control experiment, using a normal serum, or cerebro-spinal fluid, namely, one which contains no antibody, must be used at the same time.

In the hands of nearly all trustworthy and experienced investigators this method, introduced by Wassermann, has yielded most valuable results as a means of diagnosis. It is claimed even that it is more reliable than the Widal reaction for typhoid. Plaut obtained a positive reaction in 80 to 90 per cent. of undoubted cases of syphilis by this method. He found the reaction specific; it is not definitely present in a non-syphilitic individual; it enables a diagnosis of the constitutional disease to be made, but not of the organ affected. He did not obtain the reaction with the cerebro-spinal fluid in 25 cases of syphilis in which the nervous system was not affected, while the serum as a rule gave a positive reaction. This was not unexpected from what has already been said as regards the cerebro-spinal fluid and its secretion. It shows that the reaction depends upon the production of some substances by the

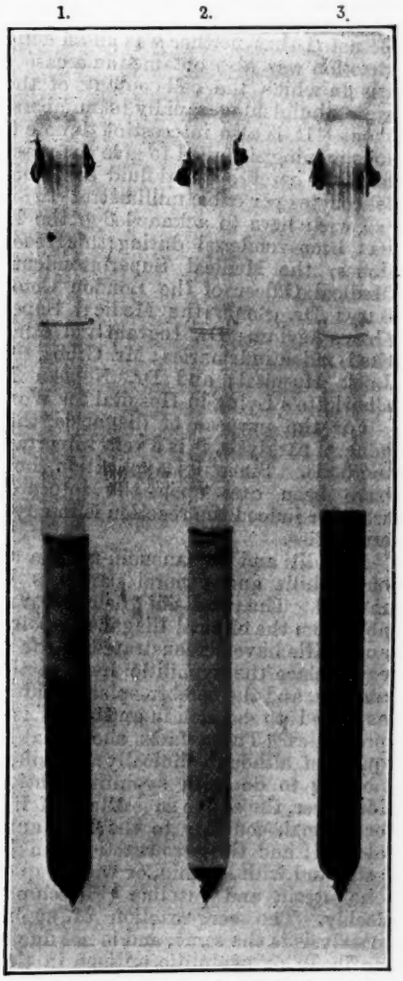

Fig. 13.—1, Cerebro-spinal fluid of general paralysis, showing the Wassermann reaction on removal from the incubator. 2, Ditto after standing overnight on ice. 3, Control with normal cerebro-spinal fluid, showing total haemolysis.

tissues of the nervous system themselves. The nature and origin of that substance will be discussed a little later, but reference will now be made to the remarkable unanimity of opinion of all those who have made experiments upon this subject as to the almost certainty with which the cerebro-spinal fluid of general paralytics, and to a less degree of tabetics, give this Wassermann reaction. According to Plaut the reaction may be negative with the cerebro-spinal fluid in cases of syphilis of the nervous system, but he obtained a positive result in 94 out of 95 cases of general paralysis with the cerebro-spinal fluid, and in every one of the cases the serum gave a positive reaction. In cases of cerebral syphilis the serum was usually positive and the cerebro-spinal fluid usually negative; in 70 to 80 per cent. of the cases of tabes the cerebro-spinal fluid gave a positive reaction. Citron, G. Meier, W. Fischer and G. Meier, Michaelis, Weygandt, Fleischmann and W. J. Butler and others have obtained similar positive results by this method.

At my suggestion, my assistant, Dr. Candler, in conjunction with Dr. Henderson Smith at the Lister Institute, has been engaged in applying this reaction to a number of my cases in the hospital and the asylums, with the following results: They have now examined the cerebro-spinal fluid of 100 cases, of which 94 were asylum cases and 6 were in general hospitals. Forty-six cases of general paralysis were examined, 41 of which gave a positive reaction by the Wassermann test, a percentage of 89.1. The reaction was not obtained in any of the control cases. Two cases of locomotor ataxia failed to give the reaction, but it may be noted that neither was in an active stage. A negative reaction was also obtained in a case of syphilitic meningitis in which the cell contents of the cerebro-spinal fluid were diminishing rapidly in numbers under specific treatment. It is also interesting to note that cases of tubercu lous meningitis failed to give the reaction, although in one case the cerebro-spinal fluid contained a large number of leucocytes per cubic millimetre.

I wish here to acknowledge the kind assistance which has been rendered during this research by Dr. Robert Jones, the Medical Superintendent, and Dr. Hughes, Medical Officer of the London County Asylum at Claybury; Dr. Bond, the Medical Superintendent of Long Grove Asylum; Dr. Ingram and other Medical Officers of the London infirmaries; Mr. Gibbs, Surgeon at the London Lock Hospital; and Dr. Nepean Longridge of Queen Charlotte's Lying-in Hospital for Women.

For the purpose of diagnosis, therefore, especially of general paralysis, it is a very important addition to clinical methods. Since its application, however, many doubts have been cast upon the interpretation of the facts whether indeed the reaction is in any way due to syphilitic antibodies.

Levaditi and Yamanouchi made a study of the diagnosis of syphilis and general paralysis by the Wassermann method. The results of their researches are very favourable from the clinical diagnostic point of view. Levaditi and Marie have demonstrated the facts that normal liver can replace the syphilitic liver in the preparation of the antigen, and the cerebro-spinal fluid of general paralytics supposed to be rich in antibodies is devoid of spirillicide properties. These facts show that the sero-reaction in question, although clinically a specific test for syphilis, had nothing to do with syphilitic antigens and antibodies. Moreover, the active substances of liver extract, syphilitic or normal, contrary to the true antigens, are soluble in alcohol; and the sero-reaction can be obtained with bile salts and with lecithin, or with soap (Sachs and Altmann), cholesterin and vaseline (Fleischmann), although more feebly. The sero-reaction of syphilis and of general paralysis is the same, and is not due to the intervention of antibody or syphilitic antigen in the usual sense of the word, and has no relation with the *Spirochaeta pallida*. Landsteiner and Porges have also demonstrated that the extract of the liver owes its particular properties for this reaction to the presence of lipoids and bile salts soluble in alcohol at 80° C. These products are found not only in the liver, but also in different organs of man and animals. Landsteiner, Müller and Potzl state that in syphilitic serum substances are present which in the general sense are not antisyphilitic bodies, but which bind up with certain constituents of normal and syphilitic tissues. Moreover, they assert that the blood serum of animals infected with *T. equiperdum* and *T. gambiense* contain similar substances which they have called *Histaffines*. Yet being a characteristic reaction, it is attributable to the presence in the serum and in the cerebro-spinal fluid of certain at present unknown compounds, which in the presence of bile salts, soaps and lipoids of the liver, precipitate and determine the fixation of the complement. Levaditi and Yamanouchi consider that these compounds arising in the organism itself may be a cholesterin ester. Thus it will be seen that these authorities give a new interpretation to the phenomena of the Wassermann method, which, however, in no way militates against its value as a practical method of diagnosis.

They also assert that there are between normal serums and lipoids of the body and specific serums and liquids, only quantitative and not qualitative differences; the reaction of Wassermann is provoked by histogenic and not bacterial substances. They find, moreover, that lipoids serving for sero-diagnosis not only exist in the liver but in other organs, the brain, the corpuscles of the blood, etc. They are probably complexes in which lecithin largely enters into the composition.

Levaditi, Ravaut, and Yamanouchi have proved that when syphilis leaves intact the central nervous system, although the serum gives a positive reaction, the cerebro-spinal fluid does not, and this is what one would expect. It is, however, different when the central nervous system is affected even in a slight degree. The cerebro-spinal fluid can then acquire properties which enable it to yield the Wassermann reaction. In fact, in the four cases out of the many examined presenting nervous symptoms, which were neither tabetics nor paralytics, the fluid has twice given a positive reaction, although quite feeble. The method of fixation of the complement would up to a certain point then serve for the early diagnosis of syphilis, especially when the brain is affected.

The researches of the above-named authors show that there is not any parallelism between the results furnished by the cytological examination and those obtained by the Wassermann method. The leucocyte reaction may be very marked in certain secondary specific cases without the cerebro-spinal fluid being in the least able to fix the complement. Such was the case in one of my patients with well-marked syphilitic cerebro-spinal meningitis. This patient was a woman, aged 34, admitted under my care at Charing Cross Hospital as a case of tabes; upon examination I diagnosed cerebro-spinal syphilitic meningitis (pseudo-tabes). Lumbar puncture gave 370 lymphocytes per c.mm. She was put on mercurial inunction, and in a fortnight she had greatly improved; the lymphocytes were now only 70 per c.mm. A fortnight later the lymphocyte count was 20 per c.mm., and she was well enough to be discharged, nearly all the symptoms having disappeared. The Wassermann reaction was negative on the last two occasions when lumbar puncture was performed; it was not tried in the first instance. The existence of numbers of lymphocytes in the spinal canal does not necessarily entail the appearance of substances which in the presence of lipoids engender the phenomenon of Wassermann. Marie and Levaditi, and we at Claybury, found that there is a parallelism between the rapidity of progress of general paralysis and the degree of intensity of the Wassermann reaction; no doubt, therefore, there is a connexion between the breaking down of nervous substances (destructive metabolism) and the amount of this complex lipoid substance, with which probably the reaction is associated, and upon which it, in a measure, depends. I have been attempting to ascertain the chemical nature of this substance, but my results are not yet sufficiently advanced to make any definite statement. However, I have found that the blood and cerebro-spinal fluid in parasyphilitic affections contain a marked excess of lipoids, inorganic salts, and splitting products of the phosphatides; and that this excess is proportional to the intensity of the disease. I have also found that a cerebro-spinal fluid which gives a positive Wassermann reaction, after removal of the protein content by precipitation with alcohol, fails to give the reaction. I am, therefore, in agreement with Noguchi, who, working on the relation of protein, lipoids, and salts to the Wassermann reaction, has come to the following conclusions:

1. "The high value in respect to complement binding exhibited by blood serums from syphilitics and spinal fluids from general paralysis is associated with an excessively high content of globulin, but there does not exist a direct quantitative relation between the two. Cases of secondary syphilis which have been under prolonged and proper medication do not exhibit the globulin increase and usually fail to give the Wassermann reaction. The active substances entering into the Wassermann reaction are precipitable with the globulin and chiefly with the euglobulin fraction of the fluids.

2. "Temperatures of 70° to 76° C. destroy the active substances. Exposed to sunlight the active substances deteriorate slowly. A photodynamic substance such as eosin, under the direct influence of the sun, brings about their complete and rapid destruction. This effect does not occur in the dark. The active substances are subject to tryptic and peptic digestion and are destroyed by weak acids and alkalis.

3. "The active substances in the blood serums and spinal fluids cannot be separated from them or from the globulin precipitate by alcohol.

4. "There are contained in the alcoholic extracts of normal and syphilitic blood and organs certain acetone soluble lipoids which possess high antigenic values for the Wassermann reaction. Cholesterin is inactive and the bile salts less active than the lipoidal bodies.

5. "Sodium cholate is about as active as sodium taurocholate and glycocholate, but neurin and choline are inactive."

Porges and Meier found that by addition of lecithin certain substances contained in syphilitic serum are rendered evident by a flocculent precipitate, and they have employed this method in place of the deviation of the complement method. But it is generally thought that this precipitation method is not so specific as the Wassermann method; moreover, Neubauer, Porges, and Salomon were able to show that syphilitic serum only behaves stronger in this respect than normal serum. Fritz and Kren found that the lecithin test is not absolutely reliable, for non-specific diseases as tuberculosis, lepra, etc., give a precipitation; still less reliable is the test with glycocholate and taurocholate of soda. In respect to the Klausner reaction of globulin precipitation it was found that it was more uncertain than the lecithin and bile salts flocculation.

Neisser, Brück, and Stern's investigations are of importance, for they have made a large number of experiments with apes and anthropoid apes, as well as observations on human beings. They conclude that the antigens are not identical with the living virus, nor of the same substance. They do not consider that mercury and atoxyl cause a destruction of the antigen, but that treatment by these drugs injures or destroys the spirochaetes. Moreover, it has been found that antibodies exist normally in small quantities in some of the lower apes; it has so far not been found in the higher apes; it is therefore not a new product in syphilis, but it is enormously increased in quantity in this disease. They consider that the serum diagnosis researches prove a direct association of syphilis, tabes, and general paralysis. Immunity to reinoculation occurs when the virus has become generalized in the blood and lymph (Neisser). It is probable that the generalization of the virus engenders simultaneously changes in the properties of the serum, by which changes it becomes capable of giving the Wassermann reaction and preventing reinoculation.

There are a number of other reactions which show that a profound bio-chemical change occurs in the blood in constitutional syphilis. Thus Klausner has shown that distilled water added to syphilitic serum causes a precipitation due to the amount of a precipitable globulin which syphilitic serum contains. Fornet and Schereschewsky have shown that the serum of paralytics and tabetics exclusively give with the serum of syphilitic patients a positive precipitin reaction. It is claimed, therefore, by them that this observation proves the syphilogenous origin of these two diseases.

The simpler method of Noguchi, to which I have been giving attention, consists in boiling for a few seconds 0.2 c.cm. of the cerebro-spinal fluid with 0.5 c.cm. of 10 per cent. butyric acid solution of 0.9 per cent. sodium chloride, and then adding 0.1 c.cm. of normal solution of caustic soda, and boil again very briefly. A flocculent precipitate is obtained in parasyphilitic affections.

Dr. Noguchi informs me that he has obtained positive results with the cerebro-spinal fluid of cases of general paralysis, tabes dorsalis, cerebral syphilis, cerebro-spinal syphilis, spinal syphilis, tertiary syphilis, and some few cases of secondary syphilis. Negative results were obtained in cases of alcoholic psychosis, dementia praecox, imbecility, idiocy, and other non-specific diseases. However, as one would expect, the fluids from cases of tuberculous meningitis, pneumococcal meningitis, and epidemic cerebro-spinal meningitis gave a large precipitate. The slightest blood contamination of the fluid renders the test valueless. Should the results be constant, this method will be of great value on account of its simplicity. It is due to the presence of a globulin; it has before been remarked that there is a parallelism between the presence of albumin in the cerebro-spinal fluid and the Wassermann reaction.

Summary.—The original method of Wassermann is the most complicated, but is regarded by the majority of investigators as the most specific and reliable. Whatever may be the explanation of the facts, all the evidence goes to prove: (1) That these methods in the hands of competent observers afford a valuable means of diagnosis, and are especially useful when applied to the cerebro-spinal fluid for the determination of the existence or not of general paralysis. (2) That similar substances, whether antibodies or not, occur in the serum of syphilitic and parasyphilitic persons in such quantities as are not found in the serum of normal persons or in the serums of people suffering with other diseases. (3) That similar substances are found in the cerebro-spinal fluid of tabetics and general paralytics, and the amount of those substances which cause a deviation of the complement or a precipitation is in proportion to the activity and length of duration of the disease; that these substances are of tissue origin, or arise from tissue destruction caused in some way by the action present or past of the syphilitic virus. (4) It is probable that the syphilitic virus excites an increased unloosening of complex lipoid substances containing lecithin and cholesterin, etc., from the red corpuscles and cells of the body. (5) That this prevails through life, and in certain cases of syphilitic infection—namely, general paralysis and tabes—the central nervous system, which under ordinary circumstances is protected against the loss of its lipoid substances, takes part in the process, and this is manifested by the presence of lipoid and globulin in the cerebro-spinal fluid which acts as the antibody in the reaction. This lipoid complex, as well as globulin, increases in amount as the process of neuronic decay proceeds. It is probably owing to the presence of these substances that the granulation of the ventricles, so characteristic a feature of general paralysis, arises as a result of stimulation to proliferative hyperplasia of the ependymal epithelium. Choline may also be present owing to decomposition of lecithin, but this may occur in any active degenerative process of the myelin, and is not pathognomonic of any particular disease.

Other lipoids of the phosphatide group are present usually in considerable amount and in proportion to the extent of myelin destruction and dissociation. I have pointed this out in the *Archives of Neurology*, vol. ii, 1902, p. 304, where, after referring to the work of Flexner, Noguchi, and Kyes on cobra venom, "I stated that the products of degeneration of nervous tissues in general paralysis are numerous, and consist not only of choline, but also of a number of bodies of the lecithin group, being various derivations of 'protagon.' Choline is the most easily separated and recognized physiologically and chemically, and it is possible that the products of degeneration vary according to the cause and nature of the destructive process. Still, there is no evidence to show that these products of degeneration can *per se* produce the clinical manifestations and morphological changes indicating neuronic irritation and destruction of general paralysis; otherwise we ought to get these changes in other diseases, also destructive lesions of the nervous system. Therefore I think it may be conceived as possible that there is a latent toxin in the blood which combines with endo-complements the products of deranged neuron activity, producing locally (this is, where the neuron metabolism is deranged either by stress, circulatory deficiencies, or hereditary physiological or anatomical defects) an active neurolysin proportional to (*a*) the amount of latent toxin in the blood, and (*b*) the amount of endo-complement produced by the deranged neuron metabolism."

Blumenthal states that he has found that the blood of syphilitic persons, also tabetics and paralytics, contains

a large increase of lecithin as compared with the normal. He finds also an increase of lecithin in the faeces in tabes and general paralysis, and a great decrease in the bone marrow. He considers that tabes and paralysis are associated with a progressive impoverishment of the body in lecithin. It is more probable that there is an impoverishment of lipoids.

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ON THE EARLY DIAGNOSIS OF CANCER OF THE TONGUE, AND ON THE RESULTS OF OPERATIONS IN SUCH CASES.*

BY HENRY T. BUTLIN, F.R.C.S., D.C.L.,

CONSULTING SURGEON TO ST. BARTHOLOMEW'S HOSPITAL.

IN the first week in January the BRITISH MEDICAL JOURNAL published the results of my operations for cancer of the tongue on 197 patients. They were, after the paper had been put together, brought up to 200. The results remain very much the same, for no further death occurred as the result of an operation, and a couple of cases have been added to the list of "successful cases." A medical journal, commenting on my paper, expressed surprise that the total number of cases was so small, and, while believing that I had perhaps performed more operations for cancer of the tongue than any other British operator, evidently thought that some of the Continental or American surgeons must have operated much more frequently. I own that, when I put all my cases together, the number seemed to me small for five-and-twenty years' work of a surgeon whose name has been associated with cancer of the tongue for a great part of that time. So I looked to see what had been done elsewhere. I think that Professor Kocher, in a longer series of years, has not operated on more than 120 to 140 patients. Billroth had comparatively few cases. And no other Continental operator seems to me to have exceeded 100 cases; few of them have nearly approached that number. On the other hand, I think Mr. Whitehead, whose name was justly held in the greatest esteem throughout the world for his operation for cancer of the tongue, probably operated on quite as many patients as I have done.

The limited number of cases which come under the care of any one surgeon led me to wonder how frequent cancer of the tongue is; and, as I could not find any definite published information on this matter, I wrote to Dr. Tatham of the General Register Office. With his usual courtesy and readiness to afford assistance to those who are studying death-rates, Dr. Tatham at once sent me information to the effect that during the seven years, 1901–7, there died in England 5,253 persons of cancer of the tongue, making a yearly average of 750. I suppose another 50 to 70 cases may be added to account for the persons who are treated successfully, but I am afraid that is rather a large estimate. Still, it may probably be roughly reckoned that about 820 people suffer from cancer of the tongue in England every year, and that 750 of them die of the disease, either with or without operation. Surely, a result not very creditable to surgery! Yet, I think we in this country probably show as good or better results of our operations than the surgeons of any other country. For the feeling on the Continent and in America is absolutely pessimistic regarding cancer of the tongue. One of the most distinguished of the American surgeons wrote recently to tell me that, in about 36 cases, he only knew of 2 definite cures. And one of the chief Austrian surgeons told me in September that he did not remember ever to have had a successful case. Professor Kocher appears to be one of the very few surgeons who is really hopeful over his results.

For a long time it has been evident that we must operate earlier if we are to hope for better results. Billroth spoke of the importance of early diagnosis years ago, but no one has really worked at it until quite recently. Circumstances were against us all: such as the difficulty of persuading doctors and their patients to submit to operations for what were not certainly known to be cancers; the imperfect examination of the reputed precancerous conditions when they had been from time to time removed.

Fortunately, five years ago Dr. Bashford, of the Imperial Cancer Research, asked me for specimens of early cancer of the tongue; and, still more fortunately, the first material which I gave him, and which I believed to be a precancerous condition, proved to be typical epithelioma. This roused my suspicion regarding precancerous conditions and led me to urge persons suffering from what appeared to be almost trivial conditions to submit to operation. I suppose I have become a greater master of the art of persuasion than I was ten or more years ago. But sure it is that I have succeeded in collecting a dozen cases of very early cancer and have had them all carefully drawn; and the microscopical examination has been made by the Imperial Cancer Research.

And, again, happily the BRITISH MEDICAL JOURNAL has published excellent reproductions in colour of twelve of my drawings, and these have been sent out all over the world, so that the knowledge of the appearance of early cancer of the tongue has been very widely spread. This is a great tribute to the liberality of the British Medical Association and to the enterprise of the Editor of the JOURNAL and the General Manager.

The conditions which are represented may fairly be divided into five classes:

1. A little plaque like a hard sore, smooth and polished, but neither ulcerated nor excoriated.

2. The transformation or replacement of a simple ulcer by a cancerous ulcer, which only differs from the simple ulcer by feeling a very little stiffer and a very little firmer.

3. The transformation of an entire plaque of leucoplakia into a plaque of cancer. The difference is marked by very slight thickening, a denser white, and furrowing or fissuring in various directions, but without excoriation or ulceration.

4. The transformation of one small area of a leucoplakic tongue into cancer, only marked at first by very slight and superficial hardening.

5. A white warty growth or compound wart, neither broken or ulcerated, and feeling at first as if it were fixed to the mucous membrane, and quite superficial.

There are other conditions in which cancer of the tongue begins, but these seem to me to be the most frequent and the most typical.

I am sure the Fellows and Members would like to know the results of the surgical treatment of these early conditions. There are twelve cases of which I have draw-

* Delivered before the Royal Society of Medicine, February 12th, 1909.

ings, and two cases which occurred before Miss Mabel Green had begun to draw for me. I include these two cases because they have already been referred to in the BRITISH MEDICAL JOURNAL, and are of especial interest.

The incisions only aimed at free removal of the cancer, with a sufficiently wide area of surrounding healthy tissue. Of the 14 patients, 3 are dead—one of nephritis and heart failure a year and a half after the operation, and without recurrence of the cancer; one of affection of the cervical glands without recurrence in the mouth; and one, who was operated on for cancer of the right border of the tongue, of cancer of the left border of the tongue, which he would not allow to be cut out until the glands were diseased beyond the reach of operation. The tongue between the two borders was quite healthy. The remaining 11 patients are alive and well at periods of eight months (1 case), one to two years (2 cases), two to three years (2 cases), three to four and a quarter years (6 cases). One patient of the last group, for whom I removed the left half of the tongue to very far behind the disease, and the lymphatic glands, suffered a year later from a fresh outbreak of epithelioma on the tip of the stump, where it was constantly rubbing against a large lower molar tooth, decayed and isolated. At the present time, three years after the removal of this second cancer, he is quite well. It may therefore be claimed that there is not a single case of local recurrence of the disease in any of the 14 patients, although 8 of them lived for three to more than four years after the operation. The glands were removed in 9 of the cases.*

The extent of the operation was generally quite out of proportion to the size of the cancer. But this was in order to remove long-standing leucoplakia and chronic superficial glossitis, from which the patient had in most cases suffered for years. On the other hand, there were two cases in which the cancer was removed between two elliptical incisions which were only just wide of its borders. In both these cases the disease was of very limited extent. The actual cancer in one of them measured about $\frac{1}{8}$ in. across by $\frac{1}{24}$ in. in thickness. It was one of the smallest cancers of the tongue which I have ever seen. The incisions passed pretty deeply into the muscular substance of the tongue. There was never any local recurrence, and the defect in his tongue was so trivial that his medical attendant, who had not been told of the operation, examining his mouth more than three years later to discover the source of infection of enlarged glands from which he was then suffering, did not perceive that his tongue had ever been operated on. Yet he died of epithelioma of his glands due to that tiny cancer. I have brought sections of another very small cancer of the tongue which was cut out by a very moderate operation, but which killed the patient through his glands, although it never recurred in his tongue.

At this moment, it would scarcely be too much to say that the air is charged with the emanations of radium. We are told that epithelioma of the tongue can be cured by radium. Had I been asked my opinion on this question a month ago, I should have said that, although two or three people in different parts of the world have claimed this power for radium, the general belief is that rodent ulcer is the only variety of malignant disease which radium is competent to cure. And I should have added that the only case of epithelioma of the mouth in my own practice to which radium had been applied (by the most skilful man with the best material) had ended disastrously. But I have, within the last few days, seen a case in which a typical epithelioma of the inside of the cheek is so much better, under the application of radium, at the end of four months that it looks as if it would be quite cured. And this has apparently been accomplished without inflammation or sloughing or profound ulceration of the disease. I understand that the radium in this case was applied by means of the disc. As this epithelioma was about $1\frac{1}{4}$ in. in diameter and ulcerated all over, when I saw it four months ago, there seems no reason to doubt that small epitheliomata of the tongue may be removed by radium, probably with a better scar than would be left by any other efficient agent. But, having said this, it must not be forgotten that the removal of the primary disease is only part of the cure of epithelioma. Even the smallest, the youngest, and apparently the most insignificant epithelioma of the tongue is capable of affecting the lymphatic glands, as the cases I have related show. So that, unless radium is discovered to possess a far-reaching influence, spreading from the seat of the primary disease to the associated lymphatic glands, I am afraid that the surgeon must still occupy an important place in the treatment of epithelioma of the tongue.

* I am not sure whether the glands were removed in another of the cases. Two of the patients were operated on by Mr. D'Arcy Power at St. Bartholomew's Hospital, and I was present at the operations. Mr. Power thinks that he removed the glands of one of these patients (the man who died of nephritis) a few days later. But the notebooks do not contain a record of the operation.

UNNA'S METHOD OF TREATING ULCERS OF THE LEG.

By GEORGE PERNET, M.D.

WITH reference to the abstract of a German paper on Unna's bandage published in the EPITOME of January 16th, 1909, par. 33, I should like to point out that Dr. Hecker has missed an important point in the mode of application. I have treated a good many varicose ulcers of the leg by Unna's method, especially when I was out-patient assistant to Sir Victor Horsley at University Hospital. At that time I looked up Dr. Unna's original paper on the subject and carried out the method on the lines laid down by him, and I may add with very gratifying results.

In as few words as possible, the following is the *modus operandi:*

The ulcer itself is cleaned up with a 1 in 2,000 solution of mercury perchloride. Iodoform is then dusted or blown on to the floor of the ulcer only. In one instance only of the hospital series first treated (1891–2) by me in this way did I see iodoform dermatitis produced, but that was characteristic and rather severe. Some of the substitutes for iodoform are therefore to be preferred for this and other reasons.

Unna's gelatine paste, liquefied in a hot water bath, is then painted on the parts surrounding, but not on the ulcer itself, well beyond the latter, and wherever there is redness or discoloration of the leg. A good formula is that of the *U.C.H. Pharmacopoeia:*

Zinc oxide	...	...	...	10 parts
Gelatine	...	...	...	15 ,,
Glycerine	...	...	...	30 ,,
Water	...	...	...	45 ,,

Sig.: Soak the gelatine in the water for two hours; add the glycerine; apply a gentle heat till dissolved; stir in the zinc oxide to a smooth consistence; allow to cool.

Two or three double-headed 3 in. muslin bandages (in one piece rolled from either end, and not bandages made by stitching the ends of two ordinary bandages together) are next required. Muslin, such as is used for plaster-of-Paris work, answers very well. I now use sterilized bandages of this kind, put up separately. A two-headed bandage is wrung out in warm (sterilized) water, and the middle of the bandage is then placed on the leg opposite the ulcer, the two heads being firmly held one in each hand. The first turn is then made with pressure vigorous enough to reduce the diameter of the limb, the bandage being brought well over the ulcer. This way of employing the two-headed bandage is the crux of the whole matter, and the central idea of the method, and is a very different thing to bandaging from the toes upwards as recommended by Dr. Hecker. The bandage is then taken round the leg, with firm pressure, especially over the actual ulcer, allowing the turns to take one more or less where they list, the two hands being used for this purpose, and the turns being evenly applied, an easy matter, the bandage being wet. Meanwhile the liquefied paste is painted on the bandage as it is wound round the limb, either by the patient or an assistant. Two or three bandages can be used in this way, a few figure-of-eight turns being taken under the foot in order to fix. The result is a splint, which allows patients to go about their work as usual. If there is a great deal of discharge from the ulcer the bandage will require to be changed the next day, but after the first few days the bandage can be left on for several days together.

The method in its principles is really the same as our English one of strapping ulcers (Baynton's), but it is more

elegant and more efficacious. The point to bear in mind is the firm pressure on the edges of the ulcer in order to flatten them down. I repeat this because what is called Unna's method of treating *ulcus cruris* is frequently performed in a very perfunctory and inefficient manner, the idea which underlies it being entirely overlooked.

I have obtained very good results by this method; in some cases, indeed, excellent. In the case of women especially, such as laundresses, charwomen, etc., the patients are able to follow their occupation with comfort and earn their living, so precarious at the best of times—an important item for these poor people under existing social arrangements. Of course, wherever possible, I agree with Dr. Hecker when he says the bandages should be applied "before the patient leaves bed." Personally, when ordering ordinary bandaging of the legs from the root of the toes upwards to support varicose veins, I have for a good many years recommended patients to do this before they got up in the morning, namely, before the effects of gravity in the vertical position came into play.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

X-RAY TREATMENT IN VENEREAL SORES AND BUBOES AFTER OPERATION.

The patient is placed on his back with his head raised. A strip of lead, 9 in. wide, with a central hole, is placed over the penis; above and below this is placed foil covering the body from the neck to the knees. A small piece of lead, which has an opening just a little larger than the sore, is placed over the penis, so that the sore is exposed; the patient, using both hands, steadies the foil and the penis; the hands and arms are covered with foil. The tube is 6 in. distant from the part. The tube must be soft (about 2 in.); the ampèrage about, but not exceeding 4. The exposure is of five minutes' duration. After four days, if there be no reaction, a further exposure of five minutes is given; after four more days, if there still be no reaction, a further five minutes is again given, continuing until a reaction is produced, when the exposure is reduced by one-half, other conditions remaining the same, and the interval is extended to seven days. The applications are continued until the sore heals, and stopped directly the first signs of radio-dermatitis are noticed. The patient should be made to understand thoroughly the value of absolute cleanliness.

In the case of buboes which have been operated on the method and exposure are precisely the same—a small piece of foil surrounding the part and protecting the tissues in the vicinity.

All the lead in actual contact—that is, the "apron" and the small pieces—are boiled daily after use, the larger pieces once a week, unless they get soiled in any way. Each patient has a sterile piece of lead in contact for each exposure. Iodoform, calomel powder, or other dressings must be removed from the part to be treated before exposure, as they absorb the *x* rays. The usual dressing subsequently employed is sterilized gauze for open buboes, mercury perchloride (1 in 2,000) on lint for venereal sores.

The results have been extremely valuable. The healing of the chancre is considerably accelerated, in all probability in less than half the time as contrasted with any other local measures.

In the case of venereal sores the tendency to suppuration of or hyperplastic matting of the nearest lymphatic glands is also reduced, a matter of extreme importance as regards the efficiency of the soldier. The healing of large operation wounds after excision of broken-down glands and scraping of the bubo is markedly accelerated, the suppuration is lessened, and more healthy granulations make their appearance.

I have no knowledge of *x* rays having ever been used in the above class of cases.

H. C. French, Major, R.A.M.C.

Royal Herbert Hospital, Woolwich.

AURAL IMPACTION OF A CHERRY STONE FOR TWENTY YEARS.

When I first saw the patient in the following case—as a locumtenent after her confinement—I noted a discharge from the right ear. Just inside the external meatus, and completely occluding the canal, was a rounded mass bathed in pus, which I thought might be a large polypus. Having no instruments with me I postponed closer examination, simply giving instructions for the ear to be syringed with warm boric lotion three times daily. On my next visit, two days later I found that, the ear having been very painful, poultices as well as syringing had been used, and the body I had observed but not identified had been extracted in two halves; one had come away with the poultice the previous evening, the other the morning of my visit. The former had been thrown away. The latter I saw and examined. It was half a cherry stone covered with a loosely adherent membrane and cartilaginous in appearance. The interior was honeycombed and bathed in pus. Both pieces came away without any sort of assistance—simply adhering to the poultices. The patient's mother, who was present, gave me the following history:

When aged 5—or twenty years before I saw her—the patient pushed a cherry stone into her ear, and immediately told her mother. It was not far in, and the mother tried to extract it with a pin, but only pushed it deeper. For the next few years the stone remained visible, and caused periodical attacks of earache. Frequent attempts were made by the mother to extract it by means of hairpins and the like; but it got pushed further in by degrees, and eventually could not be seen. No medical man was consulted. The stone continued to cause deafness and frequent attacks of earache, but there was no discharge from the ear until the seventh month of her recent and second pregnancy. The earache then became more severe and persistent and a slight purulent discharge appeared.

During her subsequent delivery—that after which I first saw her—the patient "felt something burst" in her ear during a pain, and the discharge soon became more profuse, the earache continuing; sixteen days later the stone was extracted as stated. It would seem that it had been dislodged from its deep position, and possibly broken, during the straining of childbirth, and, once loosened, was gradually forced outward by the pus behind it, until finally, with the aid of syringing and poultices, it came out altogether.

Bournemouth. J. E. Esslemont, M.B., Ch.B.

REFLEX COUGH.

A few days ago I was called to see a boy whose parents had lately come into the district.

The history was that for the last eighteen months, following an attack of whooping-cough, he had suffered from a distresing cough, so severe that he had been sent home from school "as he kept the other boys awake at night." The patient had been under treatment the whole time in various parts of the country. On examination nothing was found in the chest, nose, throat, or mouth to account for the cough, which was of a typical reflex type. The right ear, however, showed a quantity of cerumen, and on gently syringing I was able to extract a large mass, embedded in the centre of which was a complete clover flower about the size of a marble. This foreign body had given rise to no ear symptoms nor could I fix the date of its entry. The cough ceased within a few hours and the boy has returned to school.

My only excuse for reporting this somewhat trivial case is to draw attention to the necessity of a systematic examination of all organs which may be irritated reflexly and so give rise to symptoms which refuse to yield to routine treatment.

Limpsfield. J. Reginald Bentley, M.B., B.C.Cantab.

We are requested by Dr. Grosz, Secretary-General of the Sixteenth International Medical Congress, which is to be held at Buda-Pesth from August 29th to September 4th this year, to call the attention of those who propose to take part in the proceedings of the Congress to the regulation that the manuscripts of their communications should be dispatched by February 28th, 1909, at latest, to the office of the Congress, VIII Esterházy-utca 7, Buda-Pesth (Hungary). We would also remind our readers that the subscription to the Congress is twenty-five crowns in Austro-Hungarian currency, which sum may sent by post-office order to Professor Dr. de Elischer, Treasurer of the Congress, VIII Esterházy-utca 7, Buda-Pesth.

British Medical Association.

CLINICAL AND SCIENTIFIC PROCEEDINGS.

BIRMINGHAM BRANCH.

PATHOLOGICAL AMD CLINICAL SECTION.

Birmingham, Friday, January 29th, 1909.

Professor LEITH in the Chair.

Chondro-Sarcoma of the Humerus, removed by Berger's Operation.—Mr. GEORGE HEATON showed a patient after Berger's interscapular thoracic amputation for a chondro-sarcoma of his shoulder:

The patient was a youth aged 21, who had noticed an enlargement of his left shoulder for ten years. The growth had rapidly increased in size during the last twelve months. The tumour measured 23 in. in circumference. It was a large irregular-shaped chondro-sarcoma, growing from the upper epiphysis of the humerus. In places the mass was undergoing a mucoid softening. The head and upper third of the bone had been almost completely destroyed by this growth. The shoulder joint was not implicated, but the mass had become fixed to the scapula, rendering amputation at the shoulder joint itself impossible. The tumour itself was shown and microscopic sections of it exhibited. The patient made an excellent recovery, and had since the operation increased in weight so much that when he left the hospital his weight without his entire upper extremity exceeded his weight when he entered the hospital, and before the operation.

Acute Toxaemia from Liverpool Rat Virus.—Dr. OLIVE ELGOOD read a note on a case of acute toxaemia caused by the Liverpool rat virus:

The patient, aged 1½ years, was seen to swallow a piece of bread 1 cub. in. in size, soaked in a solution of the Liverpool rat virus, obtainable at any chemist's. Exactly twenty-four hours after the accident the child became suddenly cold, clammy, and drowsy. Within half an hour the following symptoms had declared themselves: Unconsciousness, combined with irritability on being touched; pyrexia to 99.8° F.; increased pulse-rate to 150-160 per minute. At the end of twelve hours the temperature was 102°, pulse 160, breathing slightly stridorous, unconsciousness and irritability were maintained, and fibrillar twitchings of the face and hands developed. Urine was passed, the bowels were constipated; there were no abdominal pains nor cramps, and no vomiting, and, except for the latter feature, the clinical picture resembled that of the stage of irritation of acute meningitis in a child. At the end of twenty-four hours from the onset the temperature was 99°, and the symptoms were commencing to abate, and at the end of thirty-six hours recovery was complete. One stool was passed during the attack; that was apparently normal. The symptoms in the case were mainly cerebral, and thus differed materially from the cases reported in the BRITISH MEDICAL JOURNAL of November 21st, 1908, which were typical instances of acute gastro-enteritis. In these cases, however, considerable doubt seems to be present as to whether a specific infection of the food taken with the virus had really taken place.

Red Infarct of Heart.—Dr. MILLER showed a specimen of red infarct of the heart, with microscopic preparations:

The case was that of a man aged 56, who was admitted to the General Hospital under Dr. Saundby, suffering from severe pain in the region of the heart, difficulty of breathing, and swelling of the feet. He had been taken ill suddenly some two months previously. He had never suffered from heart symptoms previously, but he had had four attacks of influenza. On examination his heart was found much enlarged. There were no distinct murmurs. The pulse was very irregular and intermittent. At first the patient improved under treatment, but later on the oedema became more marked, and spread all over the body; he suffered severely from sleeplessness, pain, and difficulty in breathing, and died six weeks after admission. At the necropsy the heart was found to be much enlarged, weight 30½ oz. All the cavities were dilated and their walls hypertrophied. The mitral valve showed chronic thickening, and admitted four fingers easily. There was a softening thrombus at the apex of the left ventricle. The aortic valves and the first part of the aorta were fairly healthy; the arch and the descending portion showed well-marked atheroma. Both coronary arteries showed well-marked fatty and calcareous atheroma. The left coronary was completely blocked by a mixed thrombus which was adherent to its wall practically from its commencement. On cutting into the wall of the left ventricle a large area of a deep red colour and hard consistence was found in its anterior part. The remainder of the muscle was pale yellow in colour and mottled. On microscopic examination the red area showed necrosis of the muscle fibres indicated by the failure of their nuclei to take on haematein, and by the way in which they stained with van Giesen's counterstain. The spaces between the fibres were occupied by large numbers of red blood corpuscles, practically unaltered. In places the muscle fibres had disappeared almost altogether, leaving spaces or vacuoles occupied by red cells and leucocytes. The yellow areas of muscle showed a similar appearance, but without the red cells. There appeared also to be a fairly diffuse but not very marked increase of fibrous tissue in the myocardium. A specimen stained for fat showed the reaction in the muscle bundles immediately under the endocardium. There were also numerous fine fat globules between the muscle fibres. The lung showed large numbers of infarcts, one of which occupied the whole of the left lower lobe. The remainder of the organs showed chronic venous congestion.

Pneumonia in One Family.—Dr. STACEY WILSON gave the clinical history of a series of cases of pneumonia occurring in the same family at the same time. There were five children in the family, and all developed symptoms of severe bronchopneumonia, two of them dying. Dr. MILLER showed microscopic preparations and cultures from one of the fatal cases in the above epidemic. At the *post-mortem* examination the lungs were found to show the characteristic appearances of bronchopneumonia. Cultures were made from the lung substance, and an organism was isolated with the characters of the influenza bacillus. The organism only grew upon blood agar in the form of minute isolated colonies practically invisible to the naked eye. Microscopically the germ was a minute bacillus, which lost the stain with Gram's method. A similar organism was demonstrated in stained sections of the pneumonic lung.

SPECIMENS.

Dr. PURSLOW showed the following specimens:

1. *Broad Ligament Cyst with Twisted Pedicle.*—The cyst, which formed a tumour of the size of a six months pregnancy, was removed from a single woman, 22 years of age. She had noticed a swelling of the abdomen for twelve months; there had been severe pain, which commenced suddenly for six weeks before admission. The twisting was through two complete turns, and involved the ovarian ligament; the ovary was swollen to the size of a fowl's egg, and was removed with the cyst. On section its interior showed several extravasations of blood.

2. *Uterine Fibroid and Pyosalpinx.*—This was removed from a sterile married woman, aged 40. The fibroid, 4 in. in diameter, occupied the anterior wall of the uterus, the uterine cavity skirting round the growth. In the outer half of the left tube was a swelling containing inspissated pus. The patient had complained of severe menorrhagia and dysmenorrhoea.

3. *Blood Cysts of Ovaries.*—This specimen was removed from a multipara, 28 years of age, who had had three severe attacks of pelvic peritonitis during the past nine months. She was admitted at the end of the third attack. There were fixed tender swellings on each side of the uterus and double pyosalpinx was diagnosed. On opening the abdomen the uterine appendages were found to be densely adherent, and were with difficulty enucleated; the appendix was also involved, and was removed. The specimen shows dilatation and occlusion of both tubes, but the larger part of the swelling is formed by the ovary, on each side, the one on the right side containing a blood-filled cyst 1½ in. in diameter. The pathological report was as follows: The tube shows chronic inflammation, and its wall is continuous with the substance of the ovary. There is a cyst in the centre of the ovary, full of blood clot, and the lining of the cyst consists of layers of lutein-like cells, the condition being one of haematoma of a corpus luteum.

4. *A Uterus Containing a Large Number of Small Fibroids, in all Positions, in its Walls.*—The whole constituted a tumour as large as a four months pregnancy, and was removed by vaginal hysterectomy, combined with bisection of the uterus, from a woman who was blanched by severe haemorrhages.

All the patients made good recoveries.

Reports of Societies.

ROYAL SOCIETY OF MEDICINE.

CLINICAL SECTION.

Friday, February 12th, 1909.

Sir THOMAS BARLOW, M.D., President, in the Chair.

Cancer of the Tongue.

Mr. H. T. BUTLIN read a paper on early operation for cancer of the tongue, which is printed in this issue of the BRITISH MEDICAL JOURNAL (see p. 462).

Mr. BARKER said that Mr. Butlin's work should stimulate all surgeons to increased activity in the removal from the tongue of small masses which are suspected to be cancerous; but in all such cases ought they to remove the glands? He did not like to say anything to prevent surgeons from removing the glands in these operations, but he had had so many cases where he had not removed the glands, and where recurrence had not taken place, that

he felt it only right to bring the matter forward. He emphasized the point that the term "cancer of the tongue" included many types varying in degree as regards malignancy.

Mr. W. G. Spencer considered that a patch on the tongue affording any suspicious induration should be cut out and examined microscopically; if small-celled infiltration was found lying below the epithelial downgrowth, then the case, in his opinion, was cancerous, and if the infiltration was spreading down through the muscle fibres, then the glands would be affected.

Mr. Clutton agreed with Mr. Butlin's views.

Mr. Bowlby said that he had removed the glands in all operations of the nature under discussion except in one case in which the small growth removed had turned out to be one of the type in which there was not any tendency for small-celled infiltration to descend in columns or individually. The patient remained well, but he thought it was the exception that proved the rule. Referring to the case recorded by Mr. Butlin of successful treatment of epithelioma by radium, he (Mr. Bowlby) was doubtful if the case was epitheliomatous.

Dr. Bashford pointed out how small growths on the tongue appeared much smaller on the surface than they were in the substance of the organ; as the growth descended it had a tendency to spread out in a fanlike form. He thought some attention should be paid to this possibility in addition to the significance of the amount of surface area affected and the degree of hardness of the growth. At his laboratory he and Dr. Murray had 43 different distinct carcinomas under observation and they would be unwilling to say that any one of the 43 was a duplicate of the other. He (Dr. Bashford) differed from Mr. Barker, because there were no means of saying how any particular carcinoma would behave.

Mr. Butlin said that only two points had been raised in the discussion to which reply was needed. First there was the difficulty of making a diagnosis between some of the early conditions of cancer and the conditions which might be mistaken for them. His drawings showed how very difficult this was. Hence, the safe course to pursue in all cases of doubt was to remove the disease, which could be done by a comparatively small operation, almost without danger. Secondly, there was the necessity of removal of the lymphatic glands in every case of cancer of the tongue. This was a matter which had occupied his attention incessantly during the last thirteen to fifteen years. He had come to the conclusion that it was his duty to advise patients with cancer of the tongue to have the corresponding glands removed. He quite agreed that there were cases in which it might not be necessary, and he admitted that some forms of epithelioma might be less dangerous to the glands than other forms; and the time might come when they might be able to distinguish between the more and the less dangerous forms. But at present they could not do so; and as he had shown that the glands might be fatally infected through the smallest and youngest cancer of the tongue, he felt sure that, for the present, the glands should be removed in every instance in which the patient could bear the operation. The discussion on this question that night reminded him of a somewhat similar discussion twenty-five years ago at the Harveian Society, when Sir Mitchell Banks came down from Liverpool to try and persuade them to remove the contents of the axilla in every case of cancer of the breast, whether the glands were enlarged or not. He (Mr. Butlin) was one of those who opposed his teaching on that matter, and pointed out that many cases could be collected in which the removal of the breast alone had sufficed to cure the patient, and that the glands had not become affected later, and that it was a very harsh measure to submit all patients to a large and dangerous operation (the mortality was then about 12 per cent.) which was only necessary in a certain proportion of the cases. All that was true, but Sir Mitchell Banks was right and he (Mr. Butlin) was wrong, and he ventured to say there was not any surgeon of distinction and repute in this or any other country who did not make a practice of removing the contents of the axilla in operations for cancer of the breast.

Dermoid Cyst of Mediastinum.

Mr. Godlee showed a case of dermoid cyst of the mediastinum treated by operation and illustrated by a pathological specimen. This was the continuation of a case presented to the Clinical Society before operation by Mr. G. E. O. Williams and Dr. Batty Shaw on October 27th, 1905 (reported in *Trans. Clin. Soc.*, 1906, xxxix, 210, describing the previous history, clinical signs, and symptoms). The patient was submitted to several operations in University College Hospital. In the first of them the lower part of the cyst was exposed by the removal of costal cartilages. The upper part was in such intimate relation with the large vessels at the root of the lung that its removal was impossible. Some portions of its inner wall and large quantities of hair were taken away. On subsequent occasions other portions of the skin lining the interior were cut away and cauterized. The result had been a considerable improvement in the general health and a diminution of the expectoration. But a large opening remained, in which the deep part of the cyst appeared, a forcible pulsation being transmitted to it by the action of the heart. There was a certain amount of discharge, consisting of mucus and sebaceous material, with a characteristic offensive smell. There had been several attacks of haemoptysis, in some of which a considerable amount of blood had been lost. Hardly any hairs were now produced. The pathological specimen shown was one presented to the museum of the Royal College of Surgeons by Mr. Thomas B. Mouat, of the Royal Boscombe and West Hants Hospital. It was reported by him in the British Medical Journal, 1909, i, 90. It was under the care of Dr. Bottomley, and had been diagnosed as one of tuberculous glands. The cyst, which was on the left side of the chest, presented many features of resemblance to that of Mr. Godlee's case. The lower part was intimately associated with the pericardium, the upper was imbedded amongst the large vessels of the mediastinum. The importance of considering the specimen in connexion with the living case was that it was possible thus to appreciate the kind of difficulty likely to be encountered in any attempt at removal of these particular cysts, which were in all probability teratomas.

Gonorrhoeal Rheumatism.

Mr. Godlee also showed a man with feet deformed by gonorrhoeal rheumatism.

Oxycephaly.

Dr. H. Morley Fletcher showed 4 cases of oxycephaly. They exhibited the characteristic abnormally-shaped cranium, exophthalmos due to imperfect formation of the orbits, impairment of vision, the result of partial or complete optic atrophy, and varying degrees of malformation of the superior maxilla. There was no obvious defect of intelligence in any of the cases shown.

Diffuse Periostitis of Tibias.

Mr. P. Maynard Heath showed a case of diffuse periostitis of both tibias without other evidence of congenital syphilis, and a case of congenital syphilitic knee.

Congenital Splenomegaly.

Dr. F. Parkes Weber showed a case of congenital splenomegaly with chronic acholuric jaundice in a boy, aged 14. There did not appear to be much evidence that the chronic acholuric jaundice was "haemolytic" in the case; at all events, the evidence that it was due to congenital fragility of red cells was insufficient. An interesting point was that the patient's mother said that all her children were born yellow, and remained yellow for three to six months after birth, but the jaundice was permanent only in the patient exhibited. Dr. Weber also showed a case of chronic swellings of the fingers in a woman, aged 20. The only thing of which she complained was a persistent swelling or hard oedema of all her fingers, more or less noticeable as long as she could remember. The case seemed to be allied to those of so-called "acrocyanosis."

Acromegaly.

Mr. R. Higham Cooper showed a case of advanced acromegaly. The patient was a man aged 51, who stated that the enlargement of his extremities was first noticed in the great toes seventeen years ago. Several attempts to take skiagrams of the sella turcica had been made, but without success.

Elephantiasis Treated by Lymphangioplasty.

Mr. W. SAMPSON HANDLEY showed a case of elephantiasis treated by lymphangioplasty in a clerk, aged 46, who had never been abroad. The disease began in 1895 with swelling of the left testicle and pain in the left leg. The patient had now been back at work for some weeks, and there seemed to be every prospect that the result of the operation would be permanent.

Leprosy.

Dr. HERBERT P. HAWKINS showed a case of leprosy exhibiting trophic changes in the hands and feet, with anaesthesia. The patient was a girl, aged 19, who was born of English parents at Perambur, about three miles from Madras. About two miles from her home was a leper hospital.

Amaurotic Family Idiocy.

Dr. POYNTON showed a case of amaurotic family idiocy in a female, aged 9 months, who was brought to the hospital because she was unable to sit up; she had a dull and heavy expression, and was apparently almost blind. The particular points of interest were: The early age at which suspicion was aroused, the extremely well-marked changes in the fundi, the superficially healthy appearance of the infant, and that the diagnosis of rickets had been made, as in three other cases under observation in the last four years.

Splenectomy.

Mr. L. COLLEDGE (for Mr. W. E. FISHER) showed a married woman, aged 47 years, on whom splenectomy had been performed for splenic infarction.

Exhibit.

Dr. M. MACNAUGHTON-JONES, jun., demonstrated a simple appliance for obtaining and automatically maintaining any required pressure above or below that of the atmosphere within any closed cavity containing air.

SECTION OF SURGERY.

Tuesday, February 9th, 1909.

WARRINGTON HAWARD, F.R.C.S., President, in the Chair.

Lymphatics of the Colon.

MR. J. F. DOBSON read a paper, prepared in association with Mr. J. KAY JAMIESON, on the lymphatics of the colon. Their observations were based on the examination of 23 specimens injected with a suspension of Prussian blue. A minute description of the arrangement of the lymphatic vessels and glands, with a classification into epi-colic, para-colic, intermediary, and main groups, was illustrated by numerous diagrams and pictures. The special interest of the investigation lay in relation to cancer of the colon. The comparative immunity from glandular metastasis and recurrence after removal, generally thought to be enjoyed by these growths, was not borne out by statistics, and the work of Clogg and others went to show that local and visceral recurrences were not uncommon. Disseminated cancer cells might lie dormant in the glands for considerable periods. The observations of the authors showed that dissemination might take place along the chain of glands that ran parallel to the long axis of the gut, and thence, following the line of the mesenteric vessels, towards the apex of a triangle of mesentery whose base extended for a considerable distance on either side of the actual growth. The practical outcome of this must be evident, but it was shown, with reference to actual cases, exactly what areas must be removed to secure complete extirpation of the affected tissues, with growths at various points in the course of the colon. In the course of their investigation of a case of cancer by serial sections of the mesenteric area involved, they were able to confirm the observation that glands apparently normal might be the seat of cancer cells, and that, on the other hand, glands might be enlarged owing to the absorption of products from the ulcerated surface and yet contain no cancer cells. They had reason to believe that infection was by embolism and not by permeation, and observed that communications existed between the lymphatic vessels and the veins. One important practical point was that the whole lymphatic area of the splenic flexure cannot be removed.

The Torus Palatinus.

Mr. RICKMAN J. GODLEE read a paper on the torus palatinus, and exhibited many casts, photographs, and specimens. The torus was a median ridge, boss, or vallum, sometimes with a median sulcus, occasionally found beneath the mucosa of the hard palate. Patients were now and then brought to surgeons with a small tumour in that situation, and it was important to know that such a swelling might be not abnormal. Mr. Godlee had come across such cases in his practice and was led to investigate the frequency of its occurrence. He examined some thousands of skulls in the Hunterian Museum and at Oxford; he obtained from dental surgeons, Mr. Mummery and Mr. Hern among others, several casts of the condition, and he was able to collect a considerable literature. The outcome of his research was to show that such a condition was not very uncommon, and that it had no little interest from the anthropological point of view, inasmuch as it appeared to be of much greater frequency amongst the primitive races.

Mr. BUTLIN mentioned a case he had had, with special reference to the fact that in the course of five or six years there appeared to be some slight increase in size, which might, however, be due to the soft parts over the bony boss. He considered it of interest that the daughter of his patient had also a "torus."

Professor KEITH thought it was undoubtedly a racial characteristic, and decidedly most marked in the primitive skulls. The Neanderthal skull had a marked heaping up of bone along several of the sutures, of the same character as that which formed the "torus." He was unable to assign any cause for such local hyperplasia.

Mr. TURNER said it had been regarded as a stigma of degeneration, but amongst 530 inmates of an asylum examined by him it was present in only two. He thought that some cases of swelling in this situation might be of the nature of hypertrophic exostoses similar to those found with pyorrhoea. He had examined a great many animals, and had found a torus in not a few; there were few among the higher apes, few among the carnivora; he had found it present in a porcupine and a manatee.

Mr. STANLEY MUMMERY believed that in some instances the swelling might be pathological and even become cancerous.

Mr. HERN made a few remarks about his specimens, and said the sister of one of his cases had also the "torus."

Mr. GODLEE, in reply, said he thought the torus was undoubtedly an anatomical peculiarity, and not a pathological condition.

SECTION OF MEDICINE.

Wednesday, February 10th, 1909.

T. H. GREEN, M.D., in the Chair.

Ulcerative Colitis.

THE adjourned discussion was opened by Sir PATRICK MANSON. He considered that ulcerative colitis was merely the name of a phase of a disease which hitherto had been described under the term "dysentery." The same virus, whatever it might be, might cause gangrene, ulceration, or catarrh of the colon. But dysentery was not itself a disease, only a symptom-complex. He divided dysenteries into bacterial, protozoal, and vermicular. Operation performed, as it would be in the tropics, by unaccustomed surgeons was not a hopeful method of treatment. The great majority of cases of dysentery imported into this country were amoebic dysentery, which was amenable to treatment by ipecacuanha. Dysentery with persistent pyrexia was probably either malarial or complicated with liver abscess.

Dr. CLAYE SHAW alluded especially to asylum dysentery. In his experience the disease in the asylum epidemics attacked earlier and to a far greater extent the insane patients with nerve degeneration, the healthy staff later and in slighter degree, thus arguing for the great importance of a nervous factor in the causation of some cases of intestinal ulceration.

Dr. SIDNEY PHILLIPS thought ulcerative colitis was much more common than formerly, and suggested that certain alterations in the food supply of the community might be an explanation. He referred to the frequency of severe pain in ulcerative colitis; also to the occurrence of

leucocytosis and the frequency of hiccough in his experience. In his cases no other bacteria than streptococci and *Bacillus coli* were found. He had found benefit in some of his cases from giving mercury, and from adrenalin in some of the haemorrhagic cases. He had seen improvement from surgical operation, but never immediate cure. It was to be remembered that sometimes the cases recovered spontaneously.

Mr. W. G. SPENCER mentioned a case in which great improvement took place after colotomy and irrigation, but in which any attempt to close the opening brought back the symptoms.

Dr. NORMAN DALTON mentioned a case of multiple papilloma of the colon which clumped Shiga's bacillus; he had lately met with a case of ulcerative colitis which clumped the typhoid bacillus and Flexner's bacillus, but not Shiga's bacillus. The important point seemed to be rather the virulence of the organism present than any specificity. He considered that cases had been saved by colotomy, and in his experience it had been possible to close the colotomy wound.

Mr. LOCKHART MUMMERY said that by the use of the sigmoidoscope the type of ulceration present could be made out. There were many different types, and he thought it was the cases with deep ulceration that did not get well under medical treatment. Of his series of 20 cases coming to operation there were only 5 that were fatal. Appendicostomy he thought the operation of choice; in his experience marked and rapid improvement followed. If it failed caecostomy could be done.

Dr. BERTRAND DAWSON alluded to the difficulty of gaining a clear idea of what was understood by ulcerative colitis. The two chief symptoms in the cases he had analysed were hectic fever and marked wasting. The typical cases conformed very closely to dysentery. Appendicostomy did much good in many cases, but return to ordinary life was often followed by relapse. He suggested as a possible cause of colitis the excretion of some toxin by the colon. If the real cause were above the ileo-caecal valve the frequent failure of operation would be explained. The use of *coli* vaccine had been followed by improvement in a few cases in his experience.

Mr. ZUM BUSCH described cases in some of which colotomy was done in the transverse colon, the bowel being completely divided and the distal end closed, with good results.

Sir WILLIAM ALLCHIN replied.

PATHOLOGICAL SECTION.

Tuesday, February 16th, 1909.

Mr. S. G. SHATTOCK, President, in the Chair.

A Statistical View of the Opsonic Index.

MR. M. GREENWOOD, Jun., read this paper. He said he thought it was clear enough that the value of opsonic determinations had been disputed by experimental workers whose records appeared—at least to a statistical onlooker—to entitle them to some more conclusive answer than the facile charge of imperfect technique. The pivot upon which the whole question turned was evidently the degree of credence to be attached to mean phagocytic power as determined from a small number of cells. It was necessary to examine with some attention the possible sources of error or uncertainty which may be shown to exist. It was not difficult to see that the errors involved fell into two groups. They had first the errors of technique, using the term in its widest sense, and secondly the error dependent on the fact that they measured not all the cells but a sample of them. One took the data furnished by an experienced observer, analysed them, and obtained a measure of uncertainty—that is, found that two samples differing one from another by not more than an assigned amount could not with certainty be referred to separate classes or "populations." How much of this uncertainty depended on the worker's incomplete technical skill and how much on inherent biological variability it might not be possible to define. He must be understood to speak only of the error attaching to the method as practised by the best workers at the present time, and he would describe as briefly as he could the principles upon which the study of this error seems to be possible. Dr. White and himself had undertaken a tolerably extensive study of the variation observed in the enumerations of phagocytic cells made for the purposes of the opsonic index with respect to the tubercle bacillus. Their material consisted of fifteen counts of cells made by Dr. Alexander Fleming, Dr. T. P. Strangeways, and his co-workers Miss Fitzgerald and Dr. Whiteman. The smallest count in the series was of 400 cells, the largest one of 2,000. The majority included 1,000 cells. They employed the usual processes of statistical analysis, and found that while not one of these counts could by any possibility be regarded as "normal," all, with one unimportant exception, were extraordinarily good examples of variation described by skew curves. The types discovered were those known as Pearson's first and fifth types. The charts exhibited were examples from their series; all told the same story, so that it was unnecessary to trouble them with a multitude of diagrams. On the analytical features of these curves he did not propose to dwell. Any one interested in the matter would find a detailed examination of them in a recent memoir by Dr. White and himself, published in *Biometrika* (1909, vi, Part 4). Some general features of the results were, however, worth immediate notice. In the first place, it was apparent that the distributions were highly asymmetrical, or, in technical language, exhibited "skewness" of a high order. That, of course, was an experimental proof that the Laplace-Gaussian postulates with reference to the causes of variation were, taken as a whole, inapplicable to these examples of phagocytosis. It was an interesting matter of speculation, at any rate, to inquire how this variation might conceivably have arisen. Sir Almroth Wright had offered the following solution: In any mixture of serum, corpuscles, and bacillary emulsion, the actual number of bacilli present might be large enough to give each phagocyte more bacilli than were ever ingested even by the most highly charged cell in the count. But, since the mixture of the respective constituents was not perfect, all phagocytes had not the same chance of ingesting bacilli; some cells had numerous bacilli within reach, as it were; others were far away from the well-spread board. If the hypothesis were true, the Gaussian postulate that no one cause-group contributed much to the total variation did not hold for phagocytic counts. Therefore, a skew distribution might be expected, and would, not improbably, take the form actually observed. Beyond that Mr. Major Greenwood said he must not go. Accordingly, while such a hypothesis was consistent with their results, it was to be remembered that a multitude of other hypotheses, including one of a true biological variability of the cells, would accord equally well with the ascertained facts. Thus the observation that all their frequency curves had a negative start—allowing for a bacillary content of less than zero per cell—might by some be thought to warrant a belief that certain phagocytes were, if the expression be permissible, negatively chemiotactic. It was further to be observed that even if Sir Almroth Wright's hypothesis found entire acceptance, the necessity of testing the method on the basis of skew frequencies remained. Let them conceive of a diagram as representing the whole "population" of cells involved in any one case. Then let them remember that in practice one took a small handful of fifty or a hundred cells blindfold from this "population." The most superficial consideration of the diagram led at once to the following conclusions: (1) They were not equally likely to obtain random samples, each of which differed by the same quantity from the mean of the whole "population," one in excess, the other in defect. In other words, samples were liable to biassed error. (2) The range beyond the mean was greater than the range up to the mean. Therefore, great positive deviations might conceivably occur in random sampling while correspondingly great negative deviations were excluded. This, of course, only applied to extreme deviations. (3) Owing to the marked skewness of the curve the mean was not a good descriptive constant; the mode (the most frequently occurring as distinct from the mean value) was more reliable. The truth of propositions (1) and (2) would be further illustrated in the sequel; (3) was, he thought, of some importance. The whole object of employing a mean value was to have expressed by a single constant some of the main features of a distribution. In any symmetrical frequency, such as the "normal" curve, the mean coincided

with the mode and was evidently the most useful single constant they could obtain. When, however, there was a marked skewness, as in their phagocytic counts, since the mean and mode were far apart, knowledge of the mean only might lead them to form a very incomplete idea as to the general features of the count. The mode, on the other hand, was relatively better for summarizing purposes, although, of course, no one constant would render an adequate account of any frequency-system. For these practical reasons and certain theoretical ones which he need not discuss, he suggested that it was advisable to replace the mean by the mode for testing indices. Unfortunately, the true mode could only be found by a relatively long arithmetical process; still, even a value determined by inspection or the roughest graphical consideration was not improbably better than the arithmetic mean value. The largest count in their series was one by Dr. Strangeways and his colleagues of 2,000 cells, a count made up of eighty samples of twenty-five. Taking the eighty means as separate observations, they analysed the resultant frequency distribution and obtained the curve exhibited in the diagram. It was a well-marked example of Type 1, sensibly skew and an excellent fit. While admitting that the number of means upon which the result was based was comparatively small, the excellence of the fit led the speaker to think that it afforded a provisional solution of the problem as far as samples of twenty-five were concerned. As before, let them imagine that this curve represented the whole "population" of means. Then the chance that drawing a sample from this population would give them a result not differing from the "population" mean by more than an assigned amount was merely a question of areas. Thus the chance in favour of getting a sample mean of 1.353 or less was the ratio of the area from the start bounded by the ordinate 1.353 to the rest of the area. The odds against this were 5.68 to 1. In terms of the "real" mean this deviation corresponded to an index of 0.8. In this way they saw that the odds against random sampling being responsible for indices of 0.9, 1.1, 1.3 were respectively 1.88 to 1, 3.6 to 1, 12.46 to 1. This amounted to saying that even so extreme a deviation as 1.3 might be reasonably expected to appear rather less often than once in thirteen times merely as a result of random sampling and without any coincident physiological change in the "population" whatever. In other words, no definite importance could be assigned to variations within the limits of 0.8 and 1.3 at least. He was aware that workers seldom relied on samples of twenty-five cells, although very far-reaching conclusions had in the past been based on counts of this size. How far the limits of probable variation would be narrowed by a consideration of samples of 50 or 100 was not certain. That they would be narrowed to some extent, but not it might be very much, was probable. Dr. White and he had, they thought, succeeded in showing that: (1) Phagocytic distributions were markedly asymmetrical. (2) This asymmetry, although reduced, was not removed by emulsions of (from the experimental standpoint) maximal thickness. (3) The mode of a phagocytic distribution was a more reliable constant than the mean. (4) A corollary of (1) positive and negative deviations would not occur in random sampling equally often. Further, they had not proved, but rendered somewhat probable, that samples of twenty-five were unreliable, at least within the limits of 0.8 and 1.3.

OTOLOGICAL SECTION.

A MEETING was held on February 6th, Dr. PETER MACBRIDE, President, in the chair. The PRESIDENT read notes of a case of *Dermoid of the mastoid region*. The chief point brought out was its extreme rarity. Dr. DAN MCKENZIE exhibited a *Mastoid pillow*, the peculiarity of which was an opening in the centre sufficiently spacious to receive the ear and mastoid region without exercising any pressure on the tender parts; the object being to allow the patient to lie on the side operated on in order to permit of more free drainage. Mr. ARTHUR CHEATLE showed a case of *Chronic middle-ear suppuration with caries of the anterior meatal wall and zygoma*. The probable actual cause was traumatism, the result of the patient's pushing a piece of wood into the ear. In Mr. Cheatle's opinion the caries of the bone was entirely separate from the chronic middle-ear suppuration, which had existed from boyhood. He thought the local wound caused by pushing in of the wood had become infected by the middle-ear discharge and so caused osteitis. Dr. KELSON read notes of a case of a girl who was exhibited at the previous meeting on account of having both *External auditory meatuses filled with white deposit*. At that meeting the provisional diagnosis of diphtheria was made. Cultures, however, showed the presence of *Staphylococcus aureus*, and a cure was obtained by the frequent instillation of glycerine of carbolic acid. Mr. SYDNEY SCOTT demonstrated a series of lantern slides showing *Hair cells in the organ of Corti (human)*. Mr. C. E. WEST showed cases and specimens illustrating *Malignant disease of the external auditory canal and middle ear*. He mentioned that he had seen 7 such cases in two years, and suggested that malignant disease of the ear was more frequent than was generally supposed, and that the condition, perhaps, had been frequently missed owing to lack of careful examination. Mr. HUNTER TOD read notes of a case of *Chronic osteo-myelitis of the skull, the result of mastoid disease* (with specimen of calvarium). The condition occurred in a woman who had suffered from purulent discharge for two years and who was operated on on account of a large abscess of the mastoid process. At the time of operation a large area of bone above and behind the mastoid process was found to be necrosed. The skull gradually became affected throughout its entirety until eventually, after nine months, the patient died as the result of meningitis. This case, in the opinion of the Section, was unique, although similar cases had been described as a result of infection through the frontal sinuses.

MEDICAL SOCIETY OF LONDON.

Monday, February 15th, 1909.

JOHN LANGTON, F.R.C.S., in the Chair.

Functional Disorders of the Stomach.

DR. SIDNEY MARTIN, in his second Lettsomian lecture, said the motor power of the stomach varied very considerably in disease, and the deficiency was towards weakening the motor power both in functional and organic disease, that was, it was towards dilatation of the organ. Dilatation occurred as a result of gastric irritation, of gastric insufficiency, and of organic disease, more particularly of pyloric stenosis and other forms of obstructive disease which hindered the expulsion of the stomach contents into the duodenum. It played a great part in stomach disease, being in so many cases the main sign observed that the distinction between functional dilatation and that due to organic disease was of very great importance. In hyperchlorhydria the stomach might show no loss of motor power for a long period, months or even years; but in some cases signs of dilatation occurred and the stomach might become greatly dilated. The dilatation might be diagnosed by presence of the stomach tumour, by a succussion splash in the stomach, and by the determination of the stomach area by means of auscultatory percussion. Other means of diagnosis were inflation of the organ by air or by making the patient drink 30 grains of sodium bicarbonate in 4 or 5 oz. of water, and the same quantity of tartaric acid in water. The normal stomach held about 35 oz. of water (although it varied very considerably in size), and the determination of the amount of liquid which the stomach could contain was sometimes useful as an additional method of diagnosis. The amount contained might be estimated by seeing how much could be tolerated in the stomach without distress, and how much could be siphoned off afterwards. Signs of slight dilatation occurred commonly in functional disease, more particularly in cases of gastric insufficiency and of nervous disorder. The term which some would apply to that condition was not dilatation, but myasthenia. He did not think it was necessary to use that term as long as one considered the important point that in many such cases signs of dilatation occurred only after a meal, and might disappear in four or five hours. Dilatation might thus be temporary. As the condition progressed, it tended, however, to become permanent. A point that must be considered was whether great dilatation of the stomach was ever the result of functional disease. There was no doubt that this did occur. Such great dilatation was unmistakable, inasmuch as the stomach formed a flabby bag in the abdomen which was readily palpated

and the outlines of which could be recognized with a fair amount of accuracy. The importance of the recognition that functional disease might cause great dilatation of the stomach was evident from the fact that the operation of gastro-enterostomy might be suggested for such a condition, which by other means might be relieved. Gastroptosis was a condition which required a separate discussion. It usually occurred in women who had lax abdominal walls, and not infrequently in those who had had many children. It might, however, occur in single women. In it the stomach was greatly dilated and sank in the abdomen, the lower border being nearly on a level with the pubes. In such a case there was a bulging of the lower part of the abdomen which was most obvious when the patient stood up, and frequently on standing up there was a dragging pain in the abdomen which was removed when lying down. Gastroptosis was in many cases associated with a previous prolonged period of indigestion of food, and was directly associated with pain, vomiting, and wasting. It was sometimes associated with enteroptosis and with movable kidneys. In one such case occurring in a multipara, aged 42, indigestion had lasted eight years. There were well-marked signs of gastroptosis. The secretory activity of the stomach was as follows: the total hydrochloric acid secreted was 0.23, digestive activity 72 per cent., and no organic acids were present. There, in spite of the prolonged symptoms and the dilatation of the organ, the secretory activity of the stomach was normal. The patient lost all the symptoms when the stomach was stitched up. In another case, also that of a multipara, there were similar signs of gastroptosis; the secretory activity was 0.12 hydrochloric acid. It was evidently of great importance to have a clear idea as to what were the causes which produced irritation of the stomach, not only from the point of view of diagnosis, but also, what was more important, from the point of view of treatment. In the first place must be put imperfect mastication which might be due either to the bad habit of bolting food, or to the deficiency in number and soundness of the teeth. In the next place food, either in too great quantity, too rich, too highly spiced, or too indigestible, was a frequent cause of irritation of the stomach. That was a cause which frequently acted for years, and if combined with sedentary habits led to grave defects of nutrition and serious damage to the digestive organs. Meals taken at irregular times and exercise or work soon after a meal were also a source of stomach irritation. The deficiency of daily exercise with the causes already mentioned, and rush and over-excitement of life, with perhaps periods of stress and worry, might lead to grave gastric disorder. Briefly, it might be stated that it was proper regulations for remedying the defects enumerated which resulted in successful treatment of such cases. The stomach was also readily affected by nervous influences, chiefly emotional, leading to secretory and motor disturbances. One other cause of irritation of the stomach, and one of the first importance when present, was a chronic intoxication from bacterial sources which resulted from pyorrhoea alveolaris, from chronic tonsillitis and discharges from disease of the nasal passages and from the antra, which when swallowed led to chronic poisoning of the body. In some cases the removal of those sources of intoxication led to a recovery of the individual. In other cases chronic intoxication resulted from drain emanations in the house. In a certain number of cases of functional disorder intestinal intoxication resulted partly from putrefactive processes of the faeces and partly from infection of the pancreas through the pancreatic duct or from the appendix. Dr. Martin concluded by considering in detail advanced cases of functional disorder and indigestion of nervous origin.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

Section of Obstetrics.

Friday, January 29th, 1909.

R. D. Purefoy, M.D., in the Chair.

Modified Instruments.

Dr. Ashe demonstrated a new principle for application to Bozeman's catheter and Braun's hollow sound by means of which every part of the uterus could be dealt with without fear of undue pressure. The instrument which he exhibited allowed all the fluid to come back, and with it the uterus could be flushed out. It was simple and cheap, and could be absolutely sterilized.

The Chairman considered that the instrument had a wide range of utility.

Adeno-carcinoma of Vulva.

Dr. Solomons exhibited specimens of this condition. Adeno-carcinoma of the vulva was very rare. He was able to show the specimens by the kind permission of Dr. Tweedy, the Master of the Rotunda Hospital.

M. W., aged 33, married eight years, 4-para, was admitted in November, 1908, to the Rotunda Hospital. She had noticed a lump in the vulva two weeks before admission, and this ruptured just before she entered the hospital. Pruritus was absent. Patient was blanched from loss of blood. On examination it was found that there was a large stinking mass protruding from the vulva, which seemed to spring from inside the right labium, just at Bartholin's gland. The tumour was evidently a haematoma. On its removal an excavated sloughing sore came into view, which had all the appearance of acute phagedaena. A microscopic examination showed nothing save blood clot. The cavity was plugged with iodoform gauze. Thinking that perhaps the affection was syphilitic, the patient was given a mixture of hydrarg. perchlor. and potassium iodide. Insufflation with calomel was also used. Two weeks later, as there were no signs of improvement, the excavated sore was opened up, scraped, curetted, and thoroughly swabbed out with iodized phenol. In spite of this treatment, combined with keeping the wound plugged with peroxide of hydrogen, alternating with formalin 1 in 3, together with the antisyphilitic treatment, the phagedaenic sore spread with alarming rapidity, and it became evident that a condition of malignancy probably existed: this, despite the fact that no glandular enlargement existed anywhere and the negative microscropic findings. Therefore, under an anaesthetic, the parts were explored, and the curette, knife, scissors, cautery and nitric acid were freely used in an endeavour to stay the disease, whilst large portions of the tissue that had not sloughed were removed for microscopic examination. Although the infection spread over to the other side, yet the urethra seemed in no way implicated, and lay in the midst of the disease as an isolated tube.

Dr. Rowlette reported that the case was one of adeno-carcinoma of the vulva. This diagnosis was only arrived at after he had cut a great many sections. There were no apparent primary growths in any part of the body, and the only possible original seat of the disease seemed to be in Bartholin's gland.

Ruptured Extrauterine Pregnancy.

Dr. Freeland exhibited specimens. They were taken from a patient, 35 years old, who had been married fifteen years and had had four children and four abortions. She had come to him two weeks before complaining of haemorrhage, and menstruation overdue two weeks. On examination she was found to have retroverted uterus and a small tubal mass in the left side. He thought she had a tubal pregnancy. She would not remain in hospital; she had considerable pain when she went home. She returned the next day, and the following Tuesday he operated. On opening the abdomen he found the pelvis full of blood. The fetus had escaped into the abdomen, and was attached by the cord to the rest of the ovum in the tube. The ovary was left in position, and she had done very well.

Remarks were made by the Chairman and Dr. Holmes.

Double Pyosalpinx.

Dr. FitzGibbon exhibited specimens. They were from a patient aged 31. She had been married seven years, and had had one pregnancy, which ended at term, five years before the operation in August last. She had been under observation eighteen months, and during that time very little change was seen in the pelvic condition. The uterus was normal in size and hard. On the right side there was a hard mass pressing down on the right fornix, and on the left side they could make out a tube thickened but not embedded. Her periods were normal, and she was very little troubled until the last six weeks, when severe pain came on. The abdomen when opened seemed tolerably normal until he attempted to pull up the intestines, when nothing would move, and he found the whole of Douglas's pouch filled with adherent small intestines. He got the whole of the tumour out without tying any vessels, as they had been obliterated. He closed the stump of the cervix with two interrupted sutures and packed the pelvis with

gauze. Two days after the operation the pulse went up to 110, though the temperature neither then nor subsequently went above 99°. He withdrew the gauze and put in a long drainage tube. On the third day the pulse rose gradually to 160; the following night it fell to 140. He then put in a shorter tube. She continued to improve, but next morning he found a smell of urine. He replaced the tube with one of rubber, and concluded that the drainage tube had sloughed through the bladder. He kept the tube in until he got a diminution in the amount of pus, although some still came away in the urine. The patient made a good recovery. The case showed the danger of hard drainage tubes put through the abdominal wall into the pelvis, and also showed how pyosalpinx, which was obviously chronic for eighteen months, could still set up an infection of the pelvis, although it was stated that if left for twelve months the pus would become sterile.

The case was discussed by Drs. HOLMES, JELLETT, and GIBSON, and Professor ALFRED SMITH and the CHAIRMAN.

Radical Cure of Backward Displacements of the Uterus.

Dr. JELLETT read a communication on this subject. He began by discussing the present attitude of gynaecologists towards the radical cure of backward displacements of the uterus. He considered that in all cases in which the symptoms called for relief a radical operation should be performed in preference to the prolonged use of a pessary. As exceptions to this rule he mentioned puerperal displacements, as they could usually be cured by the temporary use of a pessary, and cases in which the circumstances or general health of the patient made operation inadvisable. He showed that, if a patient had to be curetted, the performance of a radical operation prolonged her stay in hospital only by a week. He divided the different radical operations into three groups: (1) Cases in which a major operation had been performed, and in which the peritoneal cavity had been opened. For these cases he always concluded the major operation by performing a ventral suspension. (2) Cases in which the displacement was complicated by adnexal disease. In these cases he advised the opening of the abdomen followed by ventral suspension. (3) Cases of uncomplicated backward displacement. In these cases he unhesitatingly advised Alexander's operation on account of its safety and its after-results. He then discussed Alexander's operation, and referred to the statements of Drs. Herman and Galabin, who considered it an essentially dangerous operation. In opposition to this he quoted statistics of 385 cases, practically all of which were successful, and amongst which there was a single death from croupous pneumonia, and unconnected with the operation. His own statistics were as follows:

Forty-four cases were operated on. In 39 the usual double incisions were made, and in 5 a single incision. There were thus eighty-three separate incisions, and every one of these healed by primary union. One incision subsequently suppurated, owing to the fact that the subcuticular suture broke during removal and was left behind. One patient died, but her death, which was from double croupous pneumonia coming on about a week after the operation, had nothing to say to it. In one case the uterus subsequently fell back, and in this case only one ligament had been shortened. The other was left, as it was difficult to find, and as the operation had been already prolonged by the preliminary steps of curetting, trachelorrhaphy, and ligature of piles. In this case the uterus was in a normal position when the patient was seen six months later, but it had fallen back when seen two years later. Two patients at least were subsequently delivered, and after delivery the uterus remained in a normal position.

Dr. Jellett then stated in detail the reasons he considered Alexander's operation the operation of choice in cases of uncomplicated backward displacement of the uterus.

Remarks were made by the CHAIRMAN, Professor ALFRED SMITH, Dr. ASHE, Dr. HOLMES, Dr. GIBSON, Dr. FITZGIBBON, Dr. MATSON, and Mr. L. G. GUNN.

Dr. JELLETT, in reply, said the difference between the treatment which he advocated and the use of the pessary was a week in hospital, and he thought that was less serious than two or three years' pessary treatment, even if in some cases the pessary succeeded. Kelly's operation was not an ideal one, but it had the advantage of taking very little time to do when the abdomen was already open. So far from Alexander's operation causing a hernia, it would probably cure any inclination to hernia, as the walls of the inguinal canal were sutured and a patulous external ring was closed. Obliquity of the uterus was not, he thought, a matter of importance. In three or four cases in which he only shortened one round ligament he had in a month or so found the uterus in the middle line. The great majority of cases were those in which the uterus had fallen back after childbirth, and in these there was no necessity to look for causes of sterility; but if there was any doubt as to the condition of the adnexa, he agreed with Dr. Holmes in opening the abdomen. In one of his cases a patient became pregnant afterwards, and had great pain from pulling on the external abdominal ring as the uterus developed. The uterus was also very large, and there was hydramnios. He feared during pregnancy that the operation was in some way responsible for this, but eventually the woman was delivered of a stillborn syphilitic infant. He thought that a similar cause probably accounted for the repeated abortions in the case recorded by Dr. Purefoy.

LIVERPOOL MEDICAL INSTITUTION.—The third pathological meeting of the session was held on February 4th; the PRESIDENT (Mr. T. H. Bickerton) in the chair. Mr. NEWBOLT showed: (1) *A Lipoma removed from the ischio-rectal fossa* of a lady. The symptoms were those of a chronic ischio-rectal abscess. (2) A *Calcified fibroma of the thigh* which had been present for fourteen years. (3) *Recurrent myxoma of the thigh.* (4) *Hairball removed from a girl's stomach.* A bismuth *x* ray showed the mass projected through the pylorus. Dr. HARCOURT showed: (1) *Horny growth from the lower eyelid.* (2) Two cases of *Malignant disease of the ear.* (3) *Cyst of the eye* following a kick some years before. The resulting blindness was attributed to detachment of the retina. Dr. GROSSMANN considered this case to be one of embryonal lens, due to the growth of some displaced portion of ectoblast. Dr. LEITH MURRAY showed: (1) A section of a *Suprarenal rest found in an inguinal hernial sac.* (2) *Sarcoma of omentum.* (3) *Eggshell fibroid of the uterus.* Dr. TINNE showed a specimen of *Trachina vipera.* He remarked that the poison lay in the fins, and differed from that of the venom fangs of snakes in that no venom had ever been demonstrated. The local effects of being struck were vaso-constriction, followed rapidly by a hard white oedema. Dr. LLOYD ROBERTS showed a *Lung with an azygos lobe*, and read a note on malformations of the lung. Mr. THELWALL THOMAS and Dr. MURRAY BLIGH showed: (1) A *Gall bladder with calculus* blocking the cystic duct removed from a woman aged 54 years. (2) *Thyroid adenoma* with a shrivelled calcified cyst in its centre; the cyst had been tapped eight years previously. (3) *Exophthalmic goitre* removed from a girl aged 18 years. Symptoms had been present for twelve months. Marked improvement followed operation. Sections showed great proliferation of the acinous epithelium with little colloid material. Dr. ERNEST GLYNN showed: (1) A *Heart with large vegetations on the aortic valves* containing pneumococci. The man had enjoyed good health until attacked with lobar pneumonia seventeen days before death. (2) A case of *Bronchiectasis*, with abscesses in the lower lobe of the right lung, due to impaction of a clove in the bronchus, which must have been present for several weeks. Sir RUBERT BOYCE read a note on *Actinomycosis as a source of infection for man.* He had examined a considerable number of cases of this disease in pigs and cattle, and noted the frequency with which the udder of the cow had been affected. He suggested the possibility of milk being affected from the diseased udder, and gave this as an additional reason for the sterilization of milk before consumption. Dr. T. R. GLYNN referred to a case of actinomycosis which had commenced in the lung, and later gave rise to nodules in the legs. Inquiry failed to elicit the possible source of infection.

IN the New York Supreme Court a decree was recently granted to a woman annulling her marriage with a man on the ground that at the time of the marriage he was suffering from tuberculosis, and was, therefore, incompetent to contract a marriage. The husband, although he had put in an answer to her complaint, did not appear to defend the action when the case was called for trial.

Reviews.

THE PROLONGATION OF LIFE.

No subject can be of greater interest to the human race than that of the prolongation of healthy life. Many writers, well qualified to speak with authority, have put forth their views from time to time, and the admirable lecture, *On Means for the Prolongation of Life*, delivered some five years ago before the Royal College of Physicians of London by Sir HERMANN WEBER,[1] may be said to have summarized the main conclusions upon which all are more or less in agreement. A third and enlarged edition of this lecture has recently been issued in which the various aspects of the subject are arranged in order convenient for reference by means of a comprehensive index, to which is appended a full bibliography.

Foremost among the conditions conducive to health stands the habit of regular exercise. The truth of the poet's line, "the Wise for Health on Exercise depend," was never more needful to be borne in mind than at the present time, when cheap, easy, and rapid means of conveyance are always at hand to tempt the middle-aged town dweller to ride when he ought to walk, and thus to allow his circulation to stagnate, his tissues to get clogged with effete products, and his whole organism to grow old before its time. The rush of modern city life too often leads to the notion that time spent on daily exercise is time wasted, but to those who are not blinded by the engagements of the moment and can look at the larger view of the question, the prospect held out by Sir Hermann Weber will demonstrate the wisdom of maintaining a due proportion between work and exercise under most conditions of everyday life.

Next in importance to exercise comes the question of diet. Popular tradition has long since established the notion that certain kinds of meat are more digestible and less "gouty" than others, and a section on foods, which appears for the first time in this edition, will aid in the extinction of some time-honoured fallacies on these points, enabling the reader to gather from a few words the sum of actual knowledge on the subject.

Every man or woman who has lived for fifty years will have formed an opinion as to their personal requirements in the matter of food, but few of them would admit that they had arrived at a perfect diet and most would be willing to profit by the experience of those who have attained the goal of a healthy old age. With respect to drink, old customs are rapidly undergoing change, especially among the elderly, and the influence of moderation on longevity is becoming universally recognized. But the term "moderation" admits of wide interpretation and is sometimes used to cover an injurious amount of moderate drinking whereby the processes of degeneration are hastened and the attainment of long life is prevented. The critical period of life, during which the seeds of premature degeneration are most frequently sown, is that of early middle age. Between the years of 35 and 45, when the full vigour of manhood is most felt, the unrestricted indulgence in more food and alcohol than is needed with every meal must be attended by insidious changes in vital organs which do not show themselves until serious mischief hac been done. The free liver who reaches the full term of life has generally combined his enjoyment of the good things of the table with habits of active exercise in some form; but the deaths of many men of fine physique before the age of 60 can often be clearly traced to the indulgences of previous decades. While he may never be the "worse for liquor" in a legal sense, he may be daily the worse for liquor in a physiological sense, and must pay the penalty by the shortening of his life.

Many elements combine to produce healthy longevity, and the part played by the nervous system has always to be borne in mind. Anything which may tend to depress the vigour of the nervous organization must react primarily upon nutrition, and the author cites many instances to show how physical vigour may be regained by mental activity after it has become stagnant from mental inaction. Mental, no less than physical, exercise is an essential factor in the maintenance of health as life advances.

Sir Hermann Weber's book teems with wisdom, scientific observation, and common sense, and presents, in a form which is at once interesting and convincing, a true guide to the attainment of that which every one in his heart desires.

[1] *On Means for the Prolongation of Life.* By Sir H. Weber, M.D., F.R.C.P. Third edition. London: J. Bale, Sons and Danielsson. 1908. Demy 8vo, pp. 222. 4s. 6d.)

CARDIAC AND VASCULAR DISEASES.

FOLLOWING upon the first series of Professor VON NEUSSER'S *Clinical Treatises on the Symptomatology and Diagnosis of Disorders of Respiration and Circulation*, a second volume is now before us dealing with the subjects of *Bradycardia and Tachycardia*.[2] The translator is again Dr. Andrew MacFarlane, of Albany, U.S.A., and the value of the small but very comprehensive work is greatly enhanced by the addition, in an appendix, of a careful summary by Dr. Howell, of Baltimore, of the present state of knowledge with regard to the cause of the heart beat, and the steps by which it has been arrived at. A very complete bibliography of Adams-Stokes disease and of tachycardia also adds considerably to the practical value of the book. The phenomena of bradycardia and tachycardia, in spite of the efforts of physicians and experimental physiologists, are still open to controversy, and in this little work will be found a clear statement of the facts and theories which have up to the present time been observed or recorded. Bradycardia is first considered, and the three main theories of its production are duly weighed. Impairment of excitability, diminished conductivity, and enfeebled contractility on the part of the cardiac muscle, have each in turn held the field in discussions upon this point, and there can be but little doubt that they may each and all, together or separately, play a part where inflammatory or degenerative processes are at work. It is clear that the author believes that the Adams-Stokes syndrome may possibly be due to many causes. The chief stress is laid upon the epileptiform seizures rather than upon the cardiac lesion, which has in some cases been proved to be absent. The important difference between temporary and persistent bradycardia is rightly insisted upon, the latter condition being far more serious as regards prognosis. Tachycardia, in association with febrile disease, with drug intoxication and with various forms of heart disease, is fully considered, and its prognostic significance pointed out. The curious phenomena of paroxysmal tachycardia as opposed to symptomatic tachycardia are carefully described and discussed. The whole treatise may be cordially recommended to the notice of all workers in these difficult subjects, not only as affording a clear indication of the present position of knowledge, but as suggesting the lines upon which further investigation may travel in order to reach a clearer conception of the causes and curability of these peculiar conditions.

In a short monograph on *The Heart and Sudden Death*, Dr. THEODORE FISHER[3] has brought together some papers contributed by him to a contemporary journal with the object of clearing up certain misconceptions which he believes to be prevalent. His estimate of the average intelligence of the present-day practitioners and morbid anatomists would appear to be low, if we may judge from the points of pathology which he deems it necessary to emphasize. The occurrence of sudden death both in unsuspected and in recognized heart disease is sufficiently frequent to render some of his comments superfluous. Fibroid degeneration of the cardiac muscle is, from the writer's point of view, one of the most important factors in the production of sudden death. Fatty infiltration, on the other hand, he relegates to a much less prominent position, and he does not regard the presence of fat in the interstitial structures within the heart wall as evidence of cardiac weakness. The view that the fatty heart is a common cause of death under an anaesthetic is held to be a myth, although fatty changes may be found

[2] *Disorders of Respiration and Circulation.* By E. von Neusser, M.D., of Vienna. Part II, *Bradycardia and Tachycardia*, with bibliography. Authorized English translation by Andrew MacFarlane, M.D., Albany, U.S.A. New York: E. B. Treat and Co. 1908. (Demy 8vo, pp. 150. $1.25)

[3] *The Heart and Sudden Death.* By Theodore Fisher, M.D., F.R.C.P., Assistant Physician to the East London Hospital for Children. London: The Scientific Press, Limited. 1908. (Cr. 8vo, pp. 54. 2s.)

in such cases in association with fibrosis. He maintains that rheumatic endocarditis produces more uniform lesions than the endocarditis arising from other septic causes, and that these latter are more prone to cause irregular puckering of tissue and consequent obstruction of coronary vessels, leading to sudden death. Cardiac pathology presents so many puzzles to the clinician that the experience of those who have had especial opportunities of study is always interesting, if not always convincing; and we can commend Dr. Fisher's little monograph as well worthy of perusal, containing, as it does, a clearly expressed account of the writer's views on a subject to which he has devoted much attention.

The value of percussion as a means of determining the apparent size of the heart, although universally recognized, has, nevertheless, been the subject of much discussion at various times. In a recent monograph by Dr. ARAVENTINUS of Athens—*Die Perkussion in der Bestimmung der Herzgrenzen*[4]—the different views of observers in many schools have been brought together and examined very minutely by the light of his personal investigations and by the revelations of the Roentgen rays. No less than 274 references are given to the works of previous writers between the years 1761 and 1907, forming a very interesting historical summary of the views of competent observers, but showing very clearly that the personal element plays a considerable part in the conclusions at which they severally arrived. Roentgen-ray examination has greatly aided percussion, but it must still be confessed that their combined use, even in the most skilled hands, cannot always attain to accuracy. The writer of the monograph sums up with great care the lessons which may be learnt from the exhaustive study that he has made, but it is somewhat disappointing to note that these do not vary in any important point from the teachings of our own accepted textbooks.

Arterio-sclerosis is a fertile subject for investigation and discussion, and much has been done of late years to advance knowledge by both processes. Dr. L. M. WARFIELD, of St. Louis, Missouri, has brought together, in a compact little volume,[5] a very readable account of modern views on the subject, and makes many suggestive observations, which deserve further attention. Writing from exclusively American experience, he is of opinion that the rush and worry of modern business life is having a damaging effect upon the blood vessels of the present generation, and that diseases arising therefrom are more frequent than they used to be. Arterio-sclerosis would appear to be becoming somewhat of a catch-word amongst that section of the public which delights to talk about its diseases, and there is obvious danger that the supposed disease may be made the scapegoat for serious conditions arising from other causes. The author gives a good account of the physiology of the circulation, and shows how compensation for defect in one part may be effected in another, so that even an advanced condition of vessel change may not be indicated by definite symptoms. He also discusses the effects of adrenalin, and maintains that its abuse is liable to lead to degenerative changes in the muscular walls of the smallest arterioles. He directs particular attention to the liability of abdominal vessels to sclerosis, and considers that the vessels of young children after infectious disease are prone to sclerotic change. Incidentally he mentions the special liability of the coloured races to vascular degeneration. His views on prognosis and treatment do not differ materially from those generally accepted. The book constitutes a pleasant *causerie* on the whole subject, and as such may be read with advantage, but it makes no pretence to the precision and accuracy of a textbook.

AN INDEX AND A DICTIONARY.

BUT little more than twelve months have elapsed since we published a review of the first edition of the *Index of Treatment*,[6] by Dr. HUTCHISON and Mr. STANSFIELD COLLIER, and we have already to record the appearance of a fourth edition, fully revised and clad in a somewhat more imposing dress, but only enlarged to the extent of some thirty-five pages. Our commendation of the work as a really useful and practical aid to the busy practitioner has evidently been fully endorsed by a very large number of the fraternity. Every year brings with it fresh ideas of treatment founded on closer investigation of physiological and pathological processes, and there is always a tendency to run away with any new and attractive notion directly it has been brought forward, with the common result that it falls into disrepute owing to misguided application. A textbook of treatment, kept well up to the level of modern knowledge, can do much to prevent this by holding an even balance between scepticism on the one hand and over-enthusiasm on the other. In the new edition of the *Index* there are a few entirely new articles, notably one on hypnotism and its uses in aiding treatment by suggestion. The writer, Dr. Milne Bramwell, wisely refrains from dogmatic assertion and contents himself with the far more convincing method of stating in plain terms what has been achieved thus far and in what directions further advance may reasonably be looked for. It has sometimes been supposed that the higher types of intellect are more susceptible to suggestion than others, but the cases quoted would go to prove that a very considerable amount of success has been achieved among the debased and degenerate types. The patient has been taught to control his own organism. Climatic treatment is accorded a place in the new volume, and the description given by Dr. Leonard Williams of the various types of health resort, of necessity somewhat curtailed, will be found most useful as a guide not only to the selection of a suitable place but also to the avoidance of the unsuitable. The comments and recommendations are marked by strong common sense. Dr. Calvert has contributed a short article on certain points in prescribing and the incompatibility of some common combinations which should be specially noted. The whole work maintains its high level of accuracy and usefulness.

In response to the publisher's invitation, Dr. ARTHUR LATHAM has compiled a small *Dictionary of Treatment*,[7] for which, after exhaustively testing it, we have nothing but praise. Within the compass of a volume not too large for a pocket will be found a concise, but by no means meagre, account of the best methods of dealing with almost every disease that is likely to come within the experience of the busiest practitioner. It is essentially a handbook of reference for the busy man. By means of heavy type its headings and cross-references are rapidly found, and the information conveyed under each, although of necessity somewhat dogmatically stated, is at once singularly comprehensive and clear, although expressed in very few words. Only in dealing with some of the newer methods, such, for instance, as vaccine therapy, does the writer dilate at all upon his subject. The reader will do well to study carefully, sometimes reading between the lines, the section descriptive of vaccine treatment in general. Whatever the future may have in store, it is evident that at the present time these procedures ought to be employed with the utmost caution. The sections relating to diet and the feeding of infants are particularly worthy of note, and the general instructions for dealing with tuberculosis, and many other much-debated diseases, are marked by strong common sense. The little book is a veritable mine of trustworthy information.

HYDROTHERAPY, ETC.

DR. T. D. LUKE'S *Manual of Natural Therapy*,[8] is a concise volume corresponding to the manuals of physical and dietetic therapy in use on the Continent. In other

[4] *Die Perkussion in der Bestimmung der Herzgrenzen* [Percussion in the Determination of the Heart's Boundaries: A Historical, Critical, and Clinical Study]. By Dr. Anast. Araventinus, of Athens. Berlin: Max. Günther. 1907. (Cr. 4to, pp. 80.)

[5] *Arterio-Sclerosis.* By Louis M. Warfield, A.B., M.D., with an introduction by W. S. Thayer, M.D., Professor of Clinical Medicine, Johns Hopkins University. St. Louis, Mo: C. V. Mosby Medical Book Co. 1908. (Imp. roy. 8vo, pp. 192, 8 illustrations.)

[6] *An Index of Treatment by Various Writers.* Edited by Robert Hutchison, M.D., F.R.C.P., Physician to the London Hospital, and H. Stansfield Collier, F.R.C.S., Surgeon to St. Mary's Hospital. Fourth edition. Bristol: John Wright and Co.; London: Simpkin, Marshall and Co.; and New York: William Wood and Co. 1908. (Demy 8vo, pp. 942. 21s.)

[7] *A Dictionary of Medical Treatment for Students and Junior Practitioners.* By Arthur Latham, M.A. M.D.Oxon., Physician to St. George's Hospital, etc. London: J. and A. Churchill. 1908. (Cr. 8vo, pp. 325. 6s. 6d.)

[8] *A Manual of Natural Therapy.* By Thomas D. Luke, F R.C.S.Edin. Bristol: J. Wright and Sons. 1908. (Demy 8vo, pp. 319; with 30 plates and 125 illustrations. 7s. 6d.)

words, it is a practical manual of therapeutic methods other than those by drug-giving, and embraces most of the ground occupied by the numerous volumes of Solis Cohen's *System of Physiologic Therapeutics* and by the large *Handbuch der physikalischen Therapie*, edited in Germany by Goldscheider and Jacob. The book is divided into six sections, of which the first and probably the most important is devoted to the use of water in the treatment of disease, including the use of peat, "fango," and medicated baths. The succeeding sections deal with heat and light, massage and rest cures, electricity, and diet, in the treatment of disease. In the sixth section the modern "cure" in hydropathic establishments and sanatoriums and by foreign mineral waters is discussed. A great advantage of the book consists in the author's precision and clearness when he enters upon the principles involved in the different methods of treatment. For instance, in Chapter II the general principles of hydrotherapy are admirably explained, and very much to the point are his remarks (pp. 281, 282) on treatment at establishments. The Roman inscription which he quotes from the baths of Caracalla—

> Curae vacuus hunc adeas locum
> Ut morborum vacuus abire queas,
> Hic enim non curatur qui curat—

suggests, however, that in some cases successful treatment is likely to be more easily obtained at places rather distant from home than at any in the neighbourhood. This is, doubtless, recognized by many of our kinsmen from the other side of the globe, who every year help to throng the health resorts of Europe. On p. 8 the author refers to "American physicians, such as Kisch, Baruch, and Kellogg." Surely he refers to the Marienbad physician, Dr. E. H. Kisch, supposing him to be American because he contributed to a well-known American textbook on the subject. On p. 28 the author's reasonings lead him to conclude that a condition of "hydraemic plethora" is an impossibility, but chlorosis is not a very rare disease, and the researches of Lorrain Smith (1900) have shown that in chlorosis the total blood volume is excessive, and that, therefore, the condition may almost be termed one of "hydraemic plethora." On the whole, the book will probably be found very useful to many medical practitioners, though some may object that the author's use of the term "natural therapy" suggests that other treatment (by drugs) is "unnatural."

CONGENITAL TUBERCULOSIS.

DR. SITZENFREY, in his monograph on congenital tuberculosis,[9] reviews the literature of the subject, and describes his investigations of twenty-six placentas of tuberculous mothers. In addition to the placentas, the fetal membranes, the umbilical cords, and the newly born infants which came to the *post-mortem* room were also examined. The author finds that the extent of disease in the offspring is proportionate to the intensity of the tuberculous process found in the placenta. Thus, in one case in which the placenta was riddled with miliary tubercles and larger tuberculous foci, the child died four hours after birth; in another case, in which the placental tubercles were relatively scanty, the child succumbed, when three months old, to a chronic pulmonary tuberculosis, with bilateral tuberculous pleurisy; and in a third case, in which, after patient search, no more than one tuberculous focus could be discovered in the placenta, the child is still alive and well. Dr. Sitzenfrey is of opinion that white infarcts afford a particularly favourable site for the development of tubercles. Both fetal and maternal elements contribute to the structure of villous tubercles, with the exception of the so-called "primary villous tubercle," which is formed from fetal elements alone. The epithelioid and giant cells are derivatives of the cells constituting the stroma of the villi or of the vascular endothelium. With regard to the significance of the placental vascular system in the possible transmission of tuberculosis, Dr. Sitzenfrey points out that long-continued engorgement of the villous capillaries may lead to rupture of these vessels into the maternal intervillous spaces; then the possibility arises that subsequent lowering of the vascular pressure in the villous tufts may permit the entrance of maternal blood, and so allow the transference from the maternal to the fetal vascular system of tubercle bacilli which may be circulating in the former. Again, when the tuberculous changes are localized exclusively in the decidua vera, these foci may penetrate the amnion, infect the liquor amnii, and in this way lead to intrauterine infection of the fetus. The author has also succeeded in demonstrating the presence of tuberculous changes within the vessels of the umbilical cord. Dr. Sitzenfrey's book is an interesting and important contribution to the study of congenital tuberculosis, and may be thoroughly recommended to the attention of our readers.

[9] *Die Lehre von der kongenitalen Tuberkulose, mit besonderer Berücksichtigung der Placentartuberkulose.* Von Dr. Anton Sitzenfrey. Berlin: S. Karger. 1909. (Sup. roy. 8vo, pp. 156; 28 illustrations in the text. M. 5.60.)

NOTES ON BOOKS.

DR. ALEX HILL is to be congratulated upon the admirable conception and excellent execution which has resulted in the production of his account of *The Body at Work*.[10] The book satisfies a long-felt want and constitutes a textbook of physiology adapted to the use of the general public, for it is written in words whose meaning must be plain to any one who has a moderate acquaintance with the English language, and no preliminary knowledge of chemistry and physics is necessary for the comprehension of Dr. Hill's statements regarding the phenomena of bodily activity. In a book intended for the general reader, the phenomena associated with reproduction are not easily dealt with, and we think Dr. Hill has been wise in excluding them from this volume. All the other important phenomena are dealt with in a descriptive rather than a detailed and critical manner, with the result that the reader is presented with very clear and definite word pictures of the initiation, progress, and termination of the various bodily processes. In other words, Dr. Hill has adopted the dogmatic method of teaching, which is undoubtedly the one best adapted for his purpose. Though the book is not primarily intended for medical students, they will nevertheless find it an excellent introduction to more detailed study.

The third edition of Captain C. A. THIMMS'S *Hindustani Self Taught*[11] has been edited and revised by Professor I. F. Blumhardt, M.A. While the plan and general arrangement of the book have been preserved, useful alterations and additions have been made in order to render it more easy and useful as an introduction to Hindustani as a spoken language. The words and subjects of conversation selected are those likely to be of practical service to travellers and residents in India. Some of the phrases are perhaps more classical than those employed in common talk, but the patois of servants and coolies, which varies in different parts of the country, could hardly be introduced into a guide to the *lingua franca* of the whole continent.

Truth Cautionary List[12] for 1909 has been issued in a small bound volume. It contains the names of various individuals, organizations, and firms which have incurred unfavourable notice in *Truth*. That it is found useful appears from the fact that five editions were called for last year. This year the scope has been extended to cover two complete years and references are given to the page and volume of *Truth* in which fuller details are to be found. The names are classified under a number of headings, one of the longest sections being that devoted to "medical quacks," a large proportion of the names in this part of the list being of transatlantic origin. In the introduction to this section attention is called to the fact that many of these persons "while debarred under a 'fraud order' from using the mails in the United States, are allowed to carry on their business in this country with perfect immunity from interference." Yet that the law is strong enough to deal with the more flagrant forms of quackery has been demonstrated by the recent convictions of Hawkins and Montague at the Lewis Assizes.

[10] *The Body at Work.* By A. Hill, M.A., M.D., F.R.C.S. London: E. Arnold. 1908. (Demy 8vo, pp. 460, 46 figs. 16s.)

[11] *Hindustani Self Taught, with English Phonetic Pronounciation.* By Captain C. A. Thimms. Third edition. Revised by I. F. Blumhardt, M.A., M.R.A.S. London: E. Marlborough and Co. 1908. (Cr. 8vo, pp. 112. 2s., cloth 2s. 6d.)

[12] London: *Truth* Offices. 1909. (Cr. 8vo, pp. 94. 1s.; post free, 1s. 1½d.)

A GERMAN Central Committee for the care of the teeth of school children was constituted on February 1st. The Honorary President is Dr. von Studt, Minister of State, the President, Dr. von Moeller, Minister of State. Among the members of the committee are Professor Kirchner and Professor Williger.

MEDICINAL AND DIETETIC PREPARATIONS.

Pills of Phenolphthalein with Aloin, etc.

ALTHOUGH the value of phenolphthalein as an aperient is of quite recent discovery, its use for this purpose is already large. Messrs. Parke, Davis, and Co. (Beak Street, London, W.) have submitted samples of a pill containing phenolphthalein, aloin, strychnine, belladonna, and ipecacuanha, which is recommended for the treatment of chronic constipation, as well as for the relief of migraine, and in other cases. The pills are gelatine coated, and we found the coating to be soluble in a few minutes at body temperature. The combination should prove useful.

Vegetable Fat for Cooking.

We have examined a sample of a vegetable fat for cooking purposes, supplied by the Vegetable Butter Company (6, Trinity Square, London, E.C.) under the name "Palmine." It consists of a pure white fat, odourless and practically tasteless; it melts at 25° C. (77° F.), and appears from the results of analysis to be a purified cocoanut oil; it is practically neutral (the "acid value" being only 0.25), and, having a very low iodine-absorption value, is not prone to rancidity. To those who object to employing animal fat in cookery, Palmine will no doubt prove acceptable. Further, a fat which, like this, is free from flavour, and contains neither water nor other non-fatty constituents, has a suitable melting point and is free from rancidity, is likely to prove a serious rival to lard, dripping, etc., even with those who have no objection to the latter on the score of their source.

ROYAL COMMISSION ON VIVISECTION.

FOURTH REPORT.

(Concluded from page 415.)

THIS week we conclude our abstracts of the evidence given before the Royal Commission on Vivisection.*

Evidence of Professor D. J. Hamilton.

Professor Hamilton gave evidence on behalf of the University of Aberdeen, which only desired him to give evidence about some special inquiries which he had made with regard to diseases in sheep, in the course of which recourse was had to experiments on animals. The experiments were first carried on privately and afterwards at the suggestion of the Highland and Agricultural Society. He was Chairman of a Departmental Committee which was appointed by the Board of Agriculture in 1901, and which issued its Report in 1906. In that Report there was a detailed account of the researches which had been spread over four years. The object was to investigate louping-ill (*chorea paralytica ovis*) and braxy. These two diseases of sheep were the cause of enormous mortality all over Great Britain, especially in Scotland, the northern counties of England, and also in Ireland. The mortality was so great that in certain districts sheep farming as a profitable industry was threatened with extinction. That had been going on for a great many years, and some parts of Scotland had become depopulated on account of the enormous loss. A quarter of a million, it was said, was lost annually from braxy alone, and that was probably an under-estimate. In the case of braxy he had known, from his own experience, 10 to 15, 25, 50, 80, and 100 per cent. of mortality over certain districts on certain farms. From louping-ill the mortality was usually not so high, but sometimes came up to 15, and 20 to 25 per cent. There was great interference with business, not only in the transference of sheep, but in the whole farming operations. With regard to louping-ill, their first experience was gained in the valley of the North Tyne, where the Duke of Northumberland fitted up a station so that they could undertake the investigation. Most of his experiments on that disease were carried out in that neighbourhood. The first symptom was that the sheep appeared dull, and separated itself from other sheep; it then showed more or less pronounced toxic symptoms, looked as if it was suffering from alcoholic intoxication, with a reeling gate, giddiness, and a tendency to lean up against any support. In forty-eight to sixty hours afterwards the animal fell over on its side, and then passed into the second stage of the disease, in which it was convulsed, contracted, and so on. In four or five days the animal passed into the third stage, in which it became more or less paralysed in all its extremities. Usually within a week or ten days after the commencement of the disease it died. The great majority of cases terminated fatally. They began by studying the phenomena by visual and other external means of examination and examination of the carcasses of animals that had died. In the vast majority of cases, if one saw the animal immediately after death, or if one slaughtered it in the height of the disease, the organs appeared to be practically healthy; a few punctiform haemorrhages along the intestine were perhaps the only residue found. He could never find anything wrong with the blood. They produced no result by inoculating the blood; nor did the cerebro-spinal fluid produce any apparent effect. As a last resource they investigated the liquid in the peritoneal cavity, which very often presented a turbid appearance, especially a few hours after death, and on inoculating this subcutaneously they killed the inoculated animal practically in every case. In the intestine sometimes the bacillus was found in tremendous numbers. It resembled the anthrax bacillus, but grew differently; probably there was a certain relationship between them. After inoculation under the skin the animal usually died in from thirty-six to forty-eight hours. Some cases, however, were protracted over four or five days. In such cases he had seen the most perfect reproduction of the disease, not only in the sheep, but also in the rabbit. The conclusions they came to were that the disease was caused by a specific bacillus inhabiting the intestine, and under certain circumstances getting into the peritoneal cavity. They also concluded that the disease was spread through the dejecta of the animal through the manure, and also through the carelessness of farmers in leaving the carcasses about everywhere. The spores would lie in the soil for a long time apparently, and they were taken up by a second sheep, and in that way the disease was reproduced. Braxy was due to an organism of the same nature, although not identical with that of louping-ill. It was originally discovered in Norway by Nielsen by experimenting on living animals. Their investigations corroborated that discovery. The habitat was the same as that in louping-ill. The symptoms were quite different. It got the name of braxy, he believed, from an old Scandinavian derivation, signifying the suddenness of the fatality of the disease. "Bradsot" it was called in Scandinavia, and the word "braxy" was probably a lineal descendant of that. When an animal was attacked with either of these diseases treatment had very little effect upon it. Segregation had been tried over and over again. Immunization was the only feasible remedy so far. They found that the introduction of the organism in an attenuated condition, although it apparently produced a certain amount of immunity, was dangerous. Moreover, the carrying out of this method on a large scale in sheep-farming districts was impracticable, because it entailed the use of a delicate instrument in unskilled hands. Hence it was given up. Braxy was essentially a disease of first-year sheep. Farmers looked upon their two-year-olds as practically safe. That suggested that immunity, if it was acquired, must be acquired through some agency residing in the soil, and the idea struck them that the spores of the organism getting into the alimentary canal were Nature's agent in inducing this immunity. There were certain months of the year in which sheep were more susceptible to the disease. It began usually in September and went on to about the middle or end of February. His strong impression was—and he had heard it from sheep farmers—that all the animals passed through a mild attack of the disease. The organism was got in a pure state first and isolated in a pure condition; after that it was grown artificially from the peritoneal liquid. Then this was administered as a drench by the mouth. That was done at the time when sheep were practically immune from the disease—in August. They had experimented for several years progressively, modifying the method and studying what the effect would be over a whole braxy season, to ascertain what would be an effective dose, and in what form the bacillus

* London: Printed for His Majesty's Stationery Office, by Wyman and Sons, Limited, 109, Fetter Lane, E.C. And to be purchased, either directly or through any bookseller, from Wyman and Sons, 109, Fetter Lane, Fleet Street, E.C.; and 32, Abingdon Street, Westminster, S.W.; or Oliver and Boyd, Edinburgh; or E. Ponsonby, 116, Grafton Street, Dublin. (1908.)

ought to be administered. They had obtained fair success, but by no means what they anticipated in the way of still further progress. It was all done by experiments on living sheep and on rabbits and guinea-pigs. There was very good evidence to show that they had arrived at a true immunizing remedy. What was defective still was apparently the method of preparing it. He thought they would prepare it in the spore stage instead of the bacillary stage, and if so, there would be a much better chance of its immunizing the animal. During August, 1906, they treated some 13,000 sheep, and in February, 1907, some 4,000. He was speaking of both braxy and louping-ill. A very important point was to make out experimentally whether one could immunize an animal against braxy and louping-ill at the same time, as that would mean that one could save the farmer gathering his sheep twice or three times a year. These experiments were still going on. Asked to what extent he could say he had ascertained any benefit to the flocks, he said it would perhaps serve the purpose of the Commission if he gave an individual instance. A proprietor on the west coast of Scotland who was determined that he would see the experiment carried out properly, took the very greatest pains. He made the crucial experiment of drenching 400 sheep. That composed his whole stock of first-year sheep except 20. They were put under exactly the same circumstances, the first lot treated against braxy, the second lot in its natural state. Of the 400 drenched sheep, he lost 30 up to the end of May, many of them, it was said, from louping-ill. The witness examined the peritoneal liquid from the carcasses of 11 of these, and could not discover that there were any deaths from braxy, or only two, which were doubtful. Thirty out of 400 he lost from all causes, whereas in the case of the 20 undrenched sheep he lost 19. Very few of the 30, if any, died from braxy; in the others there was no doubt about the presence of braxy. That had been his invariable experience. There were some braxy-like diseases which were continually called braxy among farming people, but these differed from braxy in the scientific sense of the term. They concluded from the returns they got, the evidence they heard, and the examination of the peritoneal liquid, that, with certain exceptions, the mortality in the cases treated by them was considerably lower than in those not treated. When he said, "with certain exceptions," he meant on certain farms where apparently the disease they suffered from was not braxy at all; it was very often a disease known as blackquarter. The animals did not seem to suffer the slightest pain when the preventive was administered by the mouth, except that they were a little upset for a day or two, and giddy occasionally. If his experiments were successful, even to the extent of reducing the prevalence of braxy 5 per cent., that would mean enormously more lives saved than were lost by experiments. He thought they were on the lines calculated to prevent the diseases; he had never seen anything that did any good when once the animal was attacked by braxy. He thought they had the means by bacteriological investigation of discriminating accurately between braxy, blackquarter, malignant oedema, and louping-ill. They doubtless belonged to a family, and they had certain points in common. In the matter of growth and some other points it had a resemblance to anthrax. He had tried protecting sheep against all the diseases simultaneously. He did not know yet if it had been successful; it was being tried by mixing the preventive fluids against the four diseases. The evidence pointed to the fact that louping-ill was communicated by ingestion rather than by inoculation. The immunity in braxy seemed, in the majority of cases, to last the lifetime—that was, from two to two and a half years in the case of animals for slaughter. As in the case of small-pox, there were found exceptions here and there. He was not so sure with louping-ill whether that was so. Two-year old sheep took the disease, and it was said sometimes took it twice. But it tided the animal over the louping-ill season, and that was the great point. The investigations had been followed with great interest by the agricultural community of Scotland, and so far as he knew the line of investigation pursued had had their approval. Asked what he thought would be the general feeling of agriculturists in Scotland with regard to a proposal that experiments on animals with a view to extend knowledge as to human or animal disease should be prohibited by law, Professor Hamilton said that from conversation and wide experience he had had with intelligent farmers he thought it would raise a *furore* among the intelligent agricultural population if anything of the kind were attempted. In reply to questions, he said that without a travelling licence he could not have effectively experimented without breaking the law. He would not trust to laboratory experiments exclusively on a matter of that kind. With certain exceptions here and there on particular farms and in particular districts, the returns, so far as braxy was concerned, had shown that the mortality in the drenched was very considerably lower than in the undrenched districts. They had a very great deal to learn yet, but he was thoroughly confident they would be able to combat the disease. He had had every encouragement from farmers in the attempt to immunize their sheep by drenching. A shepherd could carry out the immunizing proceeding by drenching perfectly well. No attenuation to any extent was caused by the method of cultivation. In the natural disease exposure to weather might have the effect of attenuating the organism to a certain extent. Their method was to give a mild form of the disease at the time of year at which the animal was not naturally subject to it, so as to cause immunity. If given at other times of the year they would be killed in great numbers. The inoculation experiments conferred undoubtedly a certain immunity, but the difficulty was in the administration of the system in unskilled hands. Proceeding, he said it was his opinion—and he thought that of the Medical Faculty of the University of Aberdeen—that the existing Act should continue. In reply to further questions, he said the method of drenching had been employed for the prevention of pleuro-pneumonia of cattle, for instance, but he did not know that it had been applied to these diseases of sheep, nor by the method he had described. He would not say that drenching had not been a method in use, but it had been applied empirically. Of late the alimentary canal had been looked upon as the source from which one could treat several contagious diseases and produce immunity, and much more so than formerly. Asked as to the system of preventive treatment followed in bygone days of drenching with the dung of pigs fed on pasture covered with the manure of sheep, he said they supposed that this pigs' manure treatment of these diseases (which was a thoroughly empirical one) had nothing in it at first; however, the farmers were so positive about its virtues, that they made further inquiry into it, and after they discovered the intestinal habitat of the organisms they were dealing with, the explanation was afforded of how the pigs' manure might act as a prophylactic, because it might contain the bacillus. The pig was always put out to feed upon the grass over which the sheep were grazing, the manure was collected after it had been upon the grass. The manure was filled with spores of some kind, most likely the spores which were the cause of the disease in the sheep, and if one administered the manure to the sheep an immunity was conferred upon the animal. He did not know whether his experiments had been repeated by any Norwegian bacteriologists, but the Norwegian Government had sent a representative from their Agricultural Department to learn about them. He had also had a good deal of correspondence on the subject with Professor Jensen of Copenhagen. He had had no evidence of his experiments being disputed or confirmed. The inquiry was still incomplete. Proceeding, he said that on the majority of farms the experiments had succeeded wonderfully well; on other farms they had been a failure; the mortality had been fairly high, and apparently for a very good reason. The sheep were treated for one disease and they died from something else. The prophylactic was prepared by himself. They had usually distributed it to the farmers free until the previous year, and, he thought, part of the foregoing year (1907 and part of 1906) when they had to make a small charge for it. The applications were so numerous that the preparation was attended with a fair amount of expense, and they made a small charge for it, which was willingly paid. Asked if there was any risk in eating braxy mutton, he said there was no other animal except the sheep that took braxy. He did not know that he would like to eat braxy mutton himself, but other people did, and it did them no harm, apparently. Dogs and other animals ate the carcasses with impunity.

Nova et Vetera.

THE MADNESS OF TASSO.

MUCH has been written and still more conjectured and even invented, about the poet Tasso; and in these days, as in his own, opinions differ widely concerning him. The interest of this fresh work on *Tasso and His Times*[1] lies in the fact that it is written from a more or less new standpoint, that of a medical man.

The author has brushed aside the legends which cluster so thickly round Tasso's name, and has set himself out to trace the course of his malady, and its effects upon his mind and character. The gradual deterioration of the courtier-poet, the friend of princes and scholars and the admiration of all Italy, the decay of a brilliant intellect and the souring of a naturally sweet and unsuspicious nature, is a pitiful story, and is told with sympathy and insight by Dr. Boulting, who incidentally gives us a vivid picture of the life of a man of letters during the latter half of the sixteenth century. The Italian princes were generous patrons of art and literature, and their courts were refuges for needy genius. Each little potentate had a crowd of poets, painters, and scholars dependent upon him; he treated them almost invariably with great kindness. Yet one cannot help suspecting that it was not only the love of learning which led these dukes and marquises to surround themselves with the most learned and famous men of their day, but also the hope that their own names might shine the brighter by the reflected glory of those around them. Their intense jealousy in regard to each other's "lions," and the intrigues and bribes used to draw them from each other's courts, seem to confirm this view, and throws a curious light on the times when beauty and wisdom in all their forms were worshipped so fervently.

The relations between the patron and his protégé were those of master and servant, and the poet dependent upon a sixteenth century prince was entirely in his power. Yet many enduring friendships were formed between scholars and artists and their protectors. Tasso was intimate with several members of the various noble houses he served, and some of these, in spite of quarrels and ingratitude, remained his devoted friends and admirers to the end.

Torquato Tasso was born at Sorrento in 1544. He was the son of Bernardo Tasso and Porzia de' Rossi, and the descendant of a noble family of Bergamo. His father was celebrated throughout Italy as a soldier, courtier, and poet, and Torquato was destined for a Court career, the only opening in those days for young men of short purses and long pedigrees. Brought up at the Court of the Duke of Urbino, he went through a course of study at the University of Padua, and then entered the service, first, of Cardinal Luigi d'Este, brother of Alfonso II, Duke of Ferrara, and then that of the Duke himself. "Torquato was a born courtier," says his biographer, and at Ferrara he was in his element. He became the friend and companion of Alfonso and his sisters, the Princesses Lucrezia and Leonora, and plunged into a life of feverish excitement and activity, both mental and physical. It was a life that would have worn out the strongest, and Tasso was not a strong man. From his earliest childhood and throughout his youth he persistently burned the candle at both ends, and to this Dr. Boulting attributes his mental breakdown. The old stories that Tasso went mad for love of Leonora d'Este, or else was forced by Alfonso to feign insanity as a punishment for winning his sister's love, he looks upon as mere myths; indeed, he goes so far as to deny the truth of Tasso's ever having been in love with Leonora at all.

Overstudy in childhood and the terrible strain of later years were the cause of his trouble. The first signs of mental disturbance appeared in the year 1575, when his health began to fail. He grew irritable and suspicious, imagined himself slighted and insulted by his friends and betrayed by his servants; he fancied that he had been denounced to the Inquisition, and lived in daily fear of being poisoned by his enemies. He was tormented by religious doubts and fears, and to crown all, he was full of anxiety concerning his masterpiece, the *Gerusalemme Liberata*. It is not surprising that his brain gave way under such a strain, though the process was a gradual one. The Duke, seeing his state, treated him with the greatest possible kindness, sending him to one of his country houses for rest and change of air, and putting him under the care of his own doctors. By these learned men Tasso was bled and purged; but he himself had great faith in a certain Ferrarese druggist, who undertook to cure him in a few days. Perhaps, on the whole, it was lucky for Tasso that Lucrezia d'Este commanded the chemist to take his orders from the Court physician, who prescribed blood-letting, with a course of white wine to follow. Tasso, however, grew worse and worse; and it must be admitted that he was a sore trial to the friends who were doing their best for him. Not only did he pour forth his grievances against the Duke in wonderfully sane and plausible letters addressed to all his friends and neighbouring princes, but he was consumed with anxiety about the souls of Alfonso and his courtiers. He suspected them of heresy, and wished to go to Rome to denounce them to the Inquisition. Alfonso put up with him for a long time. When one considers the absolute power of an Italian prince in those days one cannot help acknowledging that Tasso's patron behaved with great forbearance, but his patience gave out when the poet drew his knife on a servant in the presence of the Princess Lucrezia. This was in the summer of 1577, and Tasso was imprisoned for a short time. He was very quickly released and sent to one of the ducal country houses for a change, but soon asked for permission to go to the Monastery of San Francesco. Here he spent his time in going to confession, and writing to the Inquisition. The monks tended him with great care, but he suspected them of playing tricks with his wine, and wrote to complain of this to the Duke.

When he became too great a responsibility for the monks he was taken back to the Castello at Ferrara, where he was lodged in his own rooms with a couple of attendants to look after him, and a grille across the window. He managed to escape, however, and spent some time at Sorrento with his sister. Then he began to long for the gay life of the Court, and the Duke consented to take him back to Ferrara on the condition that he would submit to a course of medical treatment. Tasso had private apartments, not in the palace, and here he lived for a time. His doctor's prescriptions have been found amongst the papers of the Estensi; they consist chiefly of calmatives, sleeping draughts, and purges. In the summer of 1578 he ran away again, and wandered through Mantua, Padua, Venice, Urbino, and Lombardy. Wherever he went he met with unfailing kindness, and the honour due to a distinguished poet. He was sheltered and kept by the great reigning houses of Italy till he grew weary of them, and wore out their patience with his suspicions and irritability. In 1579 Duke Alfonso again took him back to Ferrara. It was just at the time of his third marriage, and in the bustle of the wedding festivities Tasso imagined himself neglected. He brooded over this fancied slight till his brain gave way utterly. One day he flew into a maniacal fury, and was taken to the hospital of St. Anna a raving lunatic. That was in March, 1579, and he remained there till July, 1586. The hospital had certain rooms set apart for maniacs, and on his arrival Tasso was put into one of these, and chained down. The chain served the purpose of a straight waistcoat, and was a necessity at first, for Tasso had assaulted and beaten one of his warders. His place of confinement, however, was not the gloomy cell in which Goethe and Byron have inscribed their names, but a much airier room; and, when he grew calmer, his chain was removed, and he was given a much better apartment. After the first few months of his imprisonment he lived in large and well-furnished rooms, received visits from his friends, was allowed to write to anyone he wished, and even went out, attended by responsible persons. He was allowed to spend a day with the Marchesa of Massa and Carrara at her Villa of Madaler, and stayed at Belvidere with Lucrezia d'Este. The history of his seven years at St. Anna is a proof that the treatment of the insane at that period in Italy was as humane and enlightened as it was in some parts of Spain in the previous century. There is no hint of the horrors prevalent in the asylums of our own country at a much later date. Tasso's mental condition varied greatly during this time—fits of excitement

[1] *Tasso and His Times.* By William Boulting. London: Methuen and Co. (Pp. 307. 10s. 6d.)

were followed by a terrible depression; he was caused great grief by the deprivation of religious consolation, for, though lunatics were treated with unusual consideration in Italy, they were denied both confession and communion. In 1586 Tasso was invited to Mantua by the prince of that city, and, greatly against the wishes of the Duke, he left Ferrara for the last time. Thenceforth his life consisted of ceaseless wanderings from town to town, from court to court. Dr. Boulting clearly brings out the progressive deterioration which brain disease wrought not only in the poet's mind but in his character. He had only been a few months at Mantua when he considered himself slighted, and left the Court for Bologna. Thence he travelled to Loreto and Rome, then to Naples, Florence, and Mantua, then back to Rome and Naples, always poor, always ill, and tortured with anxiety about his writings and his religion. Princes, cardinals, patriarchs, even popes, offered him shelter, but he could not rest. His weary pilgrimage ended at Rome on April 25th, 1595, when he died at the Convent of San Onofrio, where his last days had been spent.

Dr. Boulting has told the sad story in a sympathetic spirit and with much literary skill. The book, on nearly every page of which there is evidence of scholarly research, should be especially interesting to medical men as it deals with a remarkable case affording valuable material for the study of morbid psychology.

MIDLAND MEDICAL UNION.

ON Wednesday, February 10th, the annual meeting of the Midland Medical Union was held at Chesterfield, Dr. R. G. ALLEN (of Belper), President of the Union, in the chair. The annual report was presented and adopted, and the accounts for the year as audited were passed. A vote of thanks was accorded to Dr. R. G. Allen, the retiring President, for the care and attention he had devoted to the work of the Union during a very busy year. Mr. Josiah Court, J.P., of Staveley, was elected President for the ensuing year. The Council and other honorary officers were elected, and the General Secretary (Mr. G. S. O'Rorke, LL.D., of Nottingham) was reappointed.

Proposed Amalgamation with the British Medical Association.

After careful discussion, it was resolved that the Union approach the British Medical Association with a view to becoming (without losing its identity) a committee of that association in a manner similar to that adopted in the case of the Durham Medical Union. A referendum taken by postcard was read, from which it appeared that the majority of the members were in favour of the proposal. It was further resolved that the matter be referred to the consideration of two subcommittees, one for the Nottingham Division of the Union, and the other for the Derby Division, and that (subject to their consent) the following gentlemen be appointed, with power to add to their number:

Nottingham Subcommittee.—Messrs. J. H. Cox and J. Mackie, Drs. F. R. Mutch, A. Fulton, and W. H. Hill.

Derby Subcommittee.—Messrs. J. Court, J.P., and R. G. Allen, Drs. G. Booth, J.P., J. A. Goodfellow, and A. Green.

Dr. T. HENDERSON, Honorary Secretary Nottingham Division of the British Medical Association, who was present by invitation, spoke in favour of the proposal. Dr. W. St. A. St. John, Honorary Secretary of the Derbyshire Division of the British Medical Association, was also present.

Dinner.

After the meeting, the annual dinner was held at the Hotel Portland under the presidency of Mr. R. G. Allen (in the absence through illness of the newly-elected President, Mr. J. Court). Amongst those present were the Mayor (Mr. S. E. Short) and Mayoress of Chesterfield, Mrs. R. G. Allen, Dr. W. Dyson, J.P., Sinclair White, G. Wilkinson, A. Hall, D. Burgess, J. G. Shea, J.P., and Mrs. Shea, G. Booth, Mr. V. E. Sutcliffe and Mrs. Sutcliffe, Mr. F. J. Waldmeier, Dr. and Mrs. J. A. Goodfellow and Dr. R. A. McCrae, Dr. T. Henderson, Mr. J. A. Magee, Dr. and Mrs. W. C. Rainsbury, Dr. R. Godwin Chase, the Rev. W. F. Dutton, M.A., and Mr. G. S. O'Rorke, LL.D., General Secretary.

The loyal toasts were proposed by the CHAIRMAN and were cordially received. The toast of "The Midland Medical Union" was proposed by Dr. ARTHUR HALL (Sheffield) and acknowledged by the CHAIRMAN. The toast of "The Guests" was submitted by Dr. J. G. SHEA, and after a hearty reception was acknowledged in felicitous terms by the MAYOR. The remainder of the evening was devoted to music, Miss Jackson Lee (soprano), of Sheffield, and the Cavendish Quartette being present, and a most enjoyable evening was spent.

THE PLAGUE.

PREVALENCE OF THE DISEASE.

DURING the weeks ended November 14th, 28th, December 5th, 12th, 19th, 26th (1908), January 2nd, 9th, and 16th (1909), the deaths from plague in India amounted to 1,621, 1,646, 1,626, 1,588, 1,788, 1,683, 1,431, 2,155, and 1,991 respectively. The returns show a gratifying decline compared with any year since plague first appeared in India in 1896. The mortality returns for the year 1908 show that the number of deaths from plague in India amounted to about 148,700 only, compared with 1,315,892 during 1907. The year 1909 opens with no signs of any serious recrudescence of the disease.

The distribution of plague in India may be gathered from the following figures: During the week ended November 21st, 1908, the mortality from plague was—in Bombay Presidency, 782; Bengal, 71; United Provinces, 52; Punjab, 275; Central Provinces, 104; Central India, 64; Hyderabad State, 20; Madras Presidency, 48; Mysore State, 162; Burma, 43. During the week ended January 16th, 1909, the figures were: Bombay Presidency, 473: Bengal, 188; United Provinces, 231; Punjab, 389; Central Provinces, 198; Central India (no deaths reported since December 19th, when 16 were announced); Hyderabad State (last report December 19th—10 deaths announced); Madras Presidency, 17; Mysore State (no returns); Burma, 312.

MAURITIUS.

During the weeks ended December 17th, 24th, 31st (1908), and January 7th, 14th, 21st, 28th, and February 4th and 11th (1909), the fresh cases of plague in Mauritius numbered 15, 15, 4, 2, 4, 4, 1, and 1; the deaths during these weeks amounted to 10, 9, 4, 1, 2, 3, 1, and 1 respectively.

GERMAN EAST AFRICA.

On November 24th a fresh case of plague occurred.

BRITISH EAST AFRICA.

Kisumu declared free from plague.

ZANZIBAR.

On November 22nd, 1908, 2 fresh cases reported.

EGYPT.

Between November 10th and December 25th, 1908, 193 fresh cases of plague reported, and 44 deaths from the disease. In Alexandria 3 cases reported, and in Port Said 1.

TURKEY.

In Bagdad, from November 6th, 1908, to January 3rd, 1909, fresh cases reported, 31; deaths from the disease, 7.

In Beirut, 5 fatal cases of pneumonic plague reported on January 2nd, 1909.

STRAITS SETTLEMENTS.

On November 2nd, 1908, 1 case of plague reported.

FORMOSA.

Between November 7th and 14th, 1908, fresh cases of plague, 17; and 5 deaths from the disease.

CHINA.

At Tong-Shan and district plague was reported to be epidemic in November 2nd, 1908. Sporadic cases in Hong Kong reported during the past three months.

JAPAN.

Between October 13th and December 16th, 1908, the fresh cases of plague at Awayi, Miochinomya, and Kobe numbered 25, 18, and 18 respectively. At Awayi, of the 25 cases, 18 proved fatal. At Osaka a fresh outbreak of plague was reported on December 17th, 1908.

UNITED STATES AMERICA.

Between July 15th and December 16th, 1908, the fresh cases reported numbered 4, with 3 deaths from the disease.

BRAZIL.

Rio de Janeiro.—Between August 24th and December 20th, 1908, the fresh cases of plague numbered 87 and the deaths from the disease 46.

PERU.

Between September 28th and October 28th, 1808, 68 fresh cases of plague reported, and 25 deaths from the disease.

ECUADOR.

From Guayaquil and Milagro, between November 7th and 13th, 1908, fresh cases of plague numbered 13, with 10 deaths.

AZORES.

Between July 1st and October 27th, 1908, at Terceira, 112 fresh cases of plague reported and 53 deaths from the disease.

QUEENSLAND.

On November 5th, 1908 a fatal case of plague reported at Brisbane.

REPORT

OF THE

Royal Commission on the Poor Laws and Relief of Distress.

THE report of the Royal Commission appointed on December 4th, 1905, was issued on Wednesday last. It is a folio volume of 1,252 pages, consisting of a Majority Report filling 670 pages; memoranda and notes by individual members of the Commission filling 48 pages, and a separate or Minority Report, which contains 518 pages.

MAJORITY REPORT.

The Majority Report is signed by the Chairman, Lord George Hamilton; Dr. Kelly, Bishop of Ross, Ireland; the Right Hon. Sir Henry Robinson, K.C.B., Vice-President of the Local Government Board for Ireland; Sir Samuel B. Provis, K.C.B., Permanent Secretary to the Local Government Board for England; Mr. Frank Holdsworth Bentham, J.P., Ex-Chairman of the Bradford Board of Guardians; Dr. A. H. Downes,[1] Senior Medical Inspector for Poor-law purposes to the Local Government Board for England; the Rev. Thory Gage Gardiner, M.A.; Mr. C. S. Loch,[1] Secretary of the London Charity Organization Society; Mr. J. Patten Macdougall, C.B., Vice-President of the Local Government Board for Scotland; Mr. T. Hancock Nunn,[1] member of Hampstead Board of Guardians; the Rev. L. R. Phelps, M.A.; Dr. William Smart, Vice-Chairman of the Oxford Board of Guardians, Adam Smith Professor of Political Economy, University of Glasgow; Mrs. Bosanquet,[1] and Miss Octavia Hill.[1] The reference to the Commission was:

1. Into the working of the laws relating to the relief of poor persons in the United Kingdom;
2. Into the various means which have been adopted outside of the Poor Laws for meeting distress arising from want of employment, particularly during periods of severe industrial depression;

And to consider and report whether any, and if so, what, modification of the Poor Laws or changes in their administration or fresh legislation for dealing with distress are advisable.

The Majority Report consists of the following nine parts:

Part I.—Procedure.
Part II.—Statistical Survey of Poor Law Problems.
Part III.—Historical Sketch of the Poor Laws down to 1834.
Part IV.—Historical Development and Present Condition of the Various Branches of the Poor Law.
Part V.—Medical Relief.
Part VI.—Distress due to Unemployment.
Part VII.—Charities and the Relief of Distress.
Part VIII.—Miscellaneous.
Part IX.—Review of Existing Conditions and Proposed Changes.

PART I.—PROCEDURE.

In the opening passages of their report the Commissioners state that they were impressed by the immense scope of the investigation entrusted to them, and add the observation that since 1834, when the operations of the Poor Law as a whole were last brought under the consideration of a Royal Commission, there have been presented to Parliament nearly a hundred reports of inquiries into subjects connected with the Poor Law; none of these reports, however, included in their purview pauperism as a whole, and the Commissioners state that in their report there are for the first time submitted proposals involving not only large and important modifications of the Poor Law and its administration but a revision of the methods of voluntary assistance. Having regard to the magnitude of the subject, and to the fact that the Poor Law regulates daily, and almost hourly, the lives of a heterogeneous population exceeding in size that of the city of Liverpool, the Commissioners resolved to direct their efforts towards laying down principles, leaving administrators and officials to work out the details later on. For the same reason they limited their inquiries in the main to a survey of the general operations of the Poor Law with the object of offering suggestions and guidance to the Government.

The Commissioners also took into consideration the fact that at the time of their appointment a number of official inquiries into subjects which came within their terms of reference had recently been conducted or were actually proceeding. The three rules of procedure, therefore, which they adopted with a view to limiting the scope of their inquiry were:

(1) To consider principles and, wherever possible, to avoid details.
(2) To avoid any attempt at inculpating or exculpating individuals or individual boards of guardians.
(3) To accept as far as possible the evidence and recommendations of recent or current inquiries into subjects connected with their inquiry.

Under the first head of their reference the Commissioners began by inviting chairmen of boards of guardians throughout England and Wales to report any serious defects in the Poor-law system and the best remedies; subsequently a communication was sent to all boards of guardians stating that the Commission would be happy to consider any written representations. A similar letter was sent to every parish council in Scotland. Out of the 645 unions of England and Wales replies were received from 548, either from the chairmen or from the boards, or from both. A list of questions as to the working of the Unemployed Workmen Act was sent to every distress committee, and many replies were received. The number of witnesses examined was relatively small, the Commission finding it more convenient to take evidence in the form of a written statement. Among the bodies which submitted evidence were the Local Government Boards for England, Scotland, and Ireland, the British Medical Association, the chief Poor-law and charitable associations in England and Scotland, and trade unions, friendly societies, and co-operative societies.

Special Investigations.

As certain aspects of the matter referred to the Commission seemed to call for local investigation in typical districts which the Commissioners themselves could not undertake, a number of special investigators were appointed and presented reports which the Commissioners describe as valuable; they are not contained in the volume now issued.

Among these reports is one on the methods and results of the present system of administering indoor and outdoor Poor-law medical relief in certain unions in England and Wales visited for the purpose by Dr. J. C. McVail, and one on the overlapping of the work of the voluntary general hospitals with that of Poor-law medical relief in certain districts of London, by Miss Norah B. Roberts.

PART II.—STATISTICAL SURVEY OF POOR-LAW PROBLEMS.

In this part the Commissioners, after reviewing a large mass of statistics, state that Poor-law expenditure, estimated per inhabitant, has increased from 7s. 0¼d. to 8s. 2¾d. since 1871–1872, and is only 7¼d. less than it was in 1834; while the expenditure per pauper has increased from £7 12s. 1d. to £15 12s. 6d. in the same period. The country is maintaining a multitude of paupers not far short of the numbers maintained in 1871–2, and is spending more than double the amount upon each individual. The increased expenditure has done little towards diminishing the extent of pauperism.

Medical Relief: Poor-law Infirmaries.

The Commissioners find that there has been an increase in the number of the able-bodied sick relieved indoors since 1891–2—the first year for which statistics are available—and that this increase has been fairly general in both urban and rural areas, but has been highest in some of the urban groups of unions. It is thought probable that this is to be attributed to the development of separate Poor-law infirmaries, which has rendered the receipt of indoor medical treatment less distasteful; the number rose from 78,319 on January 1st, 1904, to 91,738 on January 1st, 1908. The Commissioners believe that over three-fourths of the poor under medical treat-

[1] Mr. Loch, Mr. Nunn, Mrs. Bosanquet, and Miss Octavia Hill sign subject to memoranda appended to the Report. Dr. Downes signed subject to a memorandum, making a note detaching himself from the schemes of new administrative machinery proposed in the Report.

ment in London are relieved in Poor-law institutions, whereas less than one-half are so relieved outside London. Notwithstanding the large number of medical charities in London, the London proportions for indoor and outdoor paupers under medical treatment are higher than the provincial proportions, and it appears that the young and middle-aged avail themselves of the London Poor-law infirmaries to an extent which, when compared with other parts of the country, is abnormal. The Commissioners note that there has been no reduction in pauperism notwithstanding sanitary improvements, and arrive at the following general conclusion:

"It is very unpleasant to record that, notwithstanding our assumed moral and material progress, and notwithstanding the enormous annual expenditure, amounting to nearly 60 millions a year, upon poor relief, education, and public health, we still have a vast army of persons quartered upon us unable to support themselves, and an army which in numbers has recently shown signs of increase rather than decrease. To what is the retrogression due? It cannot be attributed to lack of expenditure. Is this costly and elaborate machinery we have established defective, and if so where does it fail to accomplish its end? Is the material upon which this machinery operates becoming less amenable to the remedies applied?"

Part III.—Historical Sketch of the Poor Laws down to 1834.

This section of the report goes back to a period antecedent to the Elizabethan Poor Relief Act (1601); sketches the history of legislation in the eighteenth century; gives an account of the Poor Law Commission of 1832, and of the principles of the Poor Law Amendment Act of 1834, and concludes with a brief summary in which it is stated that the two main principles of the Poor-law reform of 1834, so far as relief was concerned, applied to the able-bodied alone; they were:

First.—That relief should not be offered to able-bodied persons and their families otherwise than in a well-regulated workhouse.

Secondly.—That the lot of the able-bodied should be made less eligible than that of the independent labourer outside.

Part IV.—Historical Development and Present Condition of the Various Branches of the Poor Law.

This part, which occupies 150 pages, contains, in addition to the recommendations with regard to the Local Government Board, the following proposal to substitute the term Public Assistance for Poor Law:

"It has been impressed upon us in the course of our inquiry that the name Poor Law has gathered about it associations of harshness, and still more of hopelessness, which we fear might seriously obstruct the reforms which we desire to see initiated. We are aware that a mere change of name will not prevent the old associations from recurring if it does not represent an essential change in the spirit of the work, but in our subsequent criticism and recommendations we hope to show the way to a system of help which will be better expressed by the title of Public Assistance than by that of Poor Law. The general aim will remain, as it always has been, the independence and welfare of the people, but as a means towards that end we desire to introduce into all branches of the work a spirit of efficiency and hopefulness. We think that this object will be made more easy of attainment, and that the work will be more accurately described by a change of title. Accordingly, we recommend that the Division of the Local Government Board which has hitherto dealt with 'the Relief of the Poor,' should in future be known as the Public Assistance Division."

As a corollary the Commissioners (in Part IX) recommend that the duties now performed by boards of guardians should be separated into two categories, and propose to call into existence two bodies for the discharge of the two sets of functions—namely:

(1) A local authority for central administration and control within an enlarged area.

(2) Local committees for dealing with applications, investigating and supervising cases, and undertaking such other duties as may be delegated by the local authority.

They recommend that the new local authority shall be known as the Public Assistance Authority, and that the committees which will carry on its work locally shall be known as Public Assistance Committees.

This part of the report concludes with the observation that, while the rise in Poor-law expenditure was accompanied by a diminution in pauperism, it was possible to regard it with some degree of acquiescence, since it is worth while to pay highly for the restoration of paupers to independence. There are, however, indications that the present administration has reached the limits of its remedial powers, and the Commissioners are convinced that its policy both of cure and of prevention must be extended more especially in making the giving of relief conditional upon the recipient accepting a way of life likely to restore him to independence. This, they point out, is no new principle. "It was the leading note of the 1834 administration, and has been so ever since, that one class—the able-bodied—should be relieved only under certain conditions. It is now necessary to apply the principle to other classes. It has proved, indeed, impossible to push a curative policy any further in its absence; sickness cannot be cured, either in institutions or at home, unless the patient will accept conditions; economic evils cannot be combated unless those who suffer from them will conform to conditions; moral weakness cannot be strengthened unless the authorities have power to impose conditions. And what those conditions are to be must become manifest through a careful and progressive study of the causes of pauperism."

Part V.—Medical Relief.

This part of the report contains seventy pages, divided into three chapters, dealing respectively with the development of the system of medical assistance to the poor, a review of the system of medical assistance to the poor, and with general conclusions and proposals.

The third chapter begins with the following general statement:

The effects of a system of medical relief under the Poor Laws on a principle of restriction, hedged in by difficulties of attainment, and, till lately, accompanied by political disfranchisement, have been clearly shown in the evidence given before us:

1. It has to some extent produced the result which was intended. It has deterred men from applying to the Poor Law, has fostered independence, has called into existence and stimulated the growth of friendly societies, medical clubs, provident dispensaries, and the like.

2. It has, however, probably led to the neglect on the part of many to provide themselves, their wives, and families with medical attendance, and so helped to impair the health of the present generation.

3. It has called into existence a vast amount of medical charity. The out-patient wards of hospitals are only one instance of the eagerness with which men avail themselves of free medical advice, often, no doubt, as a second opinion where there is grave apprehension or want of confidence in a medical man.

4. It has helped to develop on a large scale the sale of patent medicines, and has created a class of practitioners who give advice and supply medicines at an almost inconceivably low price. As to the value of that advice or of those medicines, we pronounce no opinion. In matters of health the lessons of experience are learnt but slowly and sometimes too late to profit the learner, and it may be said that the system tends to encourage inefficiency and to demoralize both him who gives and him who takes.

The first point to which we would call special attention is the large number of institutions and of social agencies dealing with sickness. We have hospitals, convalescent homes, and retreats for the dying, maintained by voluntary effort. We have infirmaries under the care of the guardians, and infectious hospitals, managed by the sanitary authorities. All these provide institutional treatment. For domiciliary treatment, we have outdoor medical relief from the Poor Law, provident dispensaries, and free dispensaries. We have also a far-reaching organization of friendly societies which put medical aid in the forefront of their pro-

gramme and which are of great value to the nation because not only do they aid the growth of thrifty and provident habits, but they give an opportunity for the exercise of self-government. As things stand, we have not merely much overlapping and consequent waste, but the illogical result that, whereas the inmate of a workhouse infirmary runs the risk of disfranchisement, the patient in a voluntary hospital incurs no such liability.

Sickness as a Cause of Pauperism.

The Commissioners then proceed to consider reforms for the co-ordination, utilization, and development of existing agencies for the provision of medical assistance. They state that sickness is admittedly one of the chief causes of pauperism, and that the more chronic its character and the longer its duration, the greater the likelihood of its producing dependence upon the rates. They estimate that at least one-half of the total cost of pauperism is swallowed up in direct dealing with sickness, while to this burden must be added its indirect effects, the widows, children, and old people cast upon the rates through preventable deaths of breadwinners, and the host of degenerate, imbecile, maimed, and blind, with whom disease helps to populate our workhouses. They conclude that there is little, if any, exaggeration in the statement that "to the extent to which we can eliminate or diminish sickness among the poor, we shall eliminate or diminish one-half the existing amount of pauperism."

Gratuitous Medical Attendance.

Considering next objections to gratuitous medical attendance, the Commissioners conclude that while one of the first objects of a change in the present system of medical assistance should be to render it more accessible to, and more readily obtainable by, the working classes, it should be administered in such a way that those who contribute towards their own medical assistance should obtain it on more eligible terms than those who do not.

Objections to Transfer of Medical Assistance to Sanitary Authorities.

The report states that numerous witnesses, a considerable proportion of whom were medical officers of health, suggested that the proper remedy for the existing chaos in the organization of medical assistance of the poor is to hand over the administration of medical assistance to the sanitary authority, thus uniting in one body the responsibility for the public prevention and treatment of disease.

The majority of the Commissioners reject this proposal on various grounds. Among others that it is the duty of the sanitary authority by propaganda, persuasion, and forethought, to make its services attractive to all classes of the community, independent of their economic position; that these authorities have allowed to fall into desuetude the power of recovering the cost of treatment in their hospitals, which, except in London, they legally possess; that while there are over 1,800 sanitary authorities in England and Wales, there are only 643 Poor Law unions, so that to hand over medical assistance to the sanitary authorities would be to hand it over to a larger number of authorities with smaller areas than at present, thus reverting to a system that existed prior to 1834; that as medical treatment is largely a question of dieting, the transfer would involve extending the functions of sanitary authorities to maintenance, thus creating two relief authorities where only one exists at present; and, finally, that before the functions of an existing authority are enlarged by transferring to it the duties of another, it is generally required that the authority so enlarged or elevated shall have discharged satisfactorily the primary duties entrusted to it. "This," the Commissioners state, "cannot be said of many sanitary authorities, especially in rural districts."

After analysing further the defects of the present system in quality, in extent, and from overlapping, the Commissioners propound the following scheme of reform, which is quoted in full:

"(*f*) SCHEME OF REFORM.

"It is in the hope of attaining this end that we submit the following scheme of reform which assumes that the area of administration of the future Public Assistance Authority will be the county and the county borough, and that within each area this authority will have local committees working under it.

General.

"1. That medical assistance should be reorganized on a provident basis.[2]

"2. That in certain cases power of compulsory removal to and detention in an institution should be given to the authorities under proper safeguards.

"3. That there should be systematic co-operation between the Public Assistance Authorities, the Sanitary Authorities, the Education Authorities, and the Voluntary Medical Institutions, based on a clear definition of their respective functions.

"4. That no disfranchisement should be attached to any form of medical assistance.

"5. That the arrangements for indoor and outdoor medical assistance should be periodically inspected by medical inspectors on behalf of the Local Government Board.

Functions of the Public Assistance Authority as to Medical Assistance.

"6. That in taking over the existing powers and duties of boards of guardians in regard to medical relief the new Poor-law authority, or, as we shall call it, the Public Assistance Authority, shall undertake the following functions:

"(i) To co-ordinate and, when necessary, supplement the medical institutions of the county or county borough and to suggest methods of co-operation with the sanitary authorities and the authorities in charge of voluntary hospitals.

"(ii) To organize an outdoor and provident medical service easily accessible in all parts of the county or county borough, this service to include the provision of competent midwives.

"(iii) To develop an adequate nursing service throughout the county or county borough, preferably in connexion with voluntary nursing associations.

"(iv) To subscribe, when necessary, towards these purposes.

"(v) To arrange for adequate supervision of, and report on the efficiency and adequacy of the medical institutions and medical service through the county or county borough.

Establishment of Medical Assistance Committees.

"7. That, to assist the Public Assistance Authority in carrying out the above functions, they shall appoint a committee from among their number, to which shall be added representatives of the Health Committee of the County Council or of the County Borough Council, and of the local branch or branches of the British Medical Association. This committee shall be called the County or County Borough Medical Assistance Committee, as the case may be, and shall have power to co-opt representatives of local hospitals, county or county borough nursing associations, dispensaries, and registered friendly societies.

"8. That, where necessary, a local committee on similar lines shall be appointed by each Public Assistance Committee for the purposes of the local administration of medical assistance. This committee shall be termed the Local Medical Assistance Committee.

"9. That all, or any, of the functions defined in No. 6 may be referred by the Public Assistance Authority to the County or County Borough Medical Assistance Committee.

"10. That the following shall be the lines of procedure for carrying out the functions mentioned in No. 6:

Institutions.

"(i) To consider in conjunction with each "Local Medical Assistance Committee" the needs of the county or county borough and the needs of each relief district in the way of hospital (including infirmary) accommodation.

"(ii) To reorganize existing Poor-law medical institutions throughout the county, or county borough, with a view to making them most effective for different classes of patients. (This would be done in conjunction with the committees in charge of workhouses, schools, etc.)

"(iii) To organize schemes of co-operation between Public Assistance institutions and voluntary hospitals.

[2] Cf. Report by Dr. McVail, pp. 157-162; Report of Committee of British Medical Association on Contract Practice; Evidence by Dr. Lauriston Shaw, etc.

"(iv) To develop a system of paying and free cottage hospitals in conjunction with voluntary and endowed charities, these to include provision for confinement cases.[3]

"(v) To arrange schemes of co-operation between hospitals and provident dispensaries or outdoor medical service.[4]

Outdoor Medical Service.

"(i) To require the 'Local Medical Assistance Committee,' in conjunction with the local doctor, to map out their district into convenient medical districts or 'dispensary areas.'[5]

"(ii) To approach any free or provident medical institution, including private medical clubs, already existing in the district, and invite them to fall in with the scheme. (Refusal not to check procedure.)[6]

"(iii) The local authority may subscribe to the provident dispensaries, subject to the sanction of the Local Government Board, and under the conditions mentioned in Section 10 of the Poor Law Act, 1879.

Relation of the Poor Law to Provident Dispensaries.

"11. That where any applicant for medical assistance is not a member of a provident society, he shall apply to and at once be treated by a district medical officer.[7]

"12. That the relieving officer, or, as he will be called in future, the Assistance Officer, shall inquire into and report the case to the Public Assistance Committee, whose action shall be directed towards—

(i) Recovery of cost.
(ii) Strengthening of provident agencies.

"13. That with a view to enlisting the services of all competent medical practitioners in the locality of a provident dispensary, the British Medical Association be requested to suggest a general scheme or scale of fees and wage limit to be applied by their local branches as local circumstances may suggest.

"14. That under such scheme all local medical practitioners consenting to come under it shall be on the list of dispensary doctors, and any applicant who is a member of the dispensary shall be entitled to select such a practitioner as he may prefer.

"15. That arrangements should be made, where necessary, for the reception of patients in voluntary and general hospitals by the payment of their cost or by some other agreement between the Public Assistance Committee and those in management of the hospital.

"16. That any practitioner attached to a provident dispensary may, where the patient is a member of such dispensary and in need of institutional treatment, recommend him for admission to the local Public Assistance infirmary, and in certain cases, where arrangements have been made, to a voluntary or general hospital.

"17. That, so far as the patient is concerned, admission under such conditions shall be covered by the subscription to the provident dispensary.

"18. That as regards certain cases in receipt of public assistance (such as the aged and widows with young children), the Public Assistance Committee may enrol all such cases as members of a provident dispensary by paying the necessary fees."

METHODS OF ASSISTANCE.

Indoor Relief or Institutional Assistance.

The Majority Report recommends that general workhouses should be abolished, and advises classification as an essential preliminary to making indoor relief rightly effective, and accordingly that such relief should be given in separate institutions appropriate to the following classes of applicants:

1. Children.
2. Aged and infirm.
3. Sick.
4. Able-bodied men.
5. Able-bodied women.
6. Vagrants.
7. Feeble-minded and epileptics.

It is recommended that the treatment of inmates should be made as far as possible curative and restorative; that all indoor cases should be revised from time to time by a responsible committee with a view to seeing whether the existing treatment is producing the desired result, or whether it is desirable that the treatment should be altered. It is also recommended that the central authority should exercise a more strict control over expenditure on buildings and equipment.

MEDICAL RELIEF AND ASSISTANCE.

The main proposals of the Majority Report for medical assistance are as follows:

Medical Relief or Assistance.

"The primary responsibility of the Public Assistance Authorities for the inspection and supervision of medical assistance should be clearly recognized and carefully maintained; but, meanwhile, the arrangements for both indoor and outdoor medical assistance should be periodically inspected by medical inspectors on behalf of the Local Government Board; to this end the Board's staff of medical inspectors should be increased. (V., 127.)

"That, the Public Assistance Authority, to assist them in carrying out the functions in connexion with medical assistance, shall appoint a committee from among their number, to which shall be added representatives of the Health Committee of the County Council, or of the County Borough Council, and of the local branch or branches of the British Medical Association. This committee shall be called the County or County Borough Medical Assistance Committee, as the case may be, and shall have power to co-opt representatives of local hospitals, county or county borough nursing associations, dispensaries, and registered friendly societies.

"That where necessary a local committee on similar lines shall be appointed by each Public Assistance Committee for the purposes of the local administration of medical assistance. This committee shall be termed the Local Medical Assistance Committee.

"That all or any of the functions of the Public Assistance Authority in regard to medical assistance may be referred to the County or County Borough Medical Assistance Committee.

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[3] It is not suggested that this should be done suddenly or that it should be thrown mainly upon the rates. It is a popular form of charity, and to publish the needs of a district would be a guide to charitable donors. Also there is much evidence in favour of small self-supporting hospitals, or nursing homes, and these might be organised in conjunction with the local medical men, and, to some extent, upon a provident basis.

[4] This scheme would have to vary with local conditions. In London the Central Hospitals Council and the Hospitals Committee of the British Medical Association are in favour of preferential treatment to dispensary members who may be sent for consultation by dispensary doctors, and of using the out-patient departments of the hospitals mainly for consultative purposes. (Cf. Holland, Vol. III., App. xvii. (B), and Montefiore, Vol. III., App. xxii. (A)). We have no evidence to show whether provincial hospitals would follow the same line, but at Manchester the hospital authorities refer out-patients to the provident dispensary. The British Medical Association witnesses say: "It is remarkable how many hospitals who only give general replies on other matters go out of their way to say that they would welcome co-ordination of the provident dispensaries." (Whitaker, 39191.)

[5] The nature of the "dispensary" to be established in each area would vary with the nature of the district. In large and sparsely-populated districts a room in a cottage, with a locked cupboard for drugs, might be sufficient. In a crowded area, a complete building, with waiting rooms, etc., and a dispenser, might be necessary; while in medium districts attendance at the doctor's own house might be preferred. The determining factor would be the distance to be travelled by the patient. Existing buildings might often be utilized, *e.g.*, public assistance, provident, and free dispensaries.

[6] It is probable that in many cases these would join at once. The Secretary to the Metropolitan Provident Medical Association says that already some of the free dispensaries have been converted into provident dispensaries, and that he is constantly approached by others with the same object. (Cf. Warren, 33487 (44), 33692-4.) Want of funds is generally the motive, and with the establishment of a universal provident system this motive would probably increase. The head of a large free dispensary in Birmingham is strongly in favour of a provident system. (Cf. Evidence of Dr. Bagster Wilson, 44618 et seq.) Doctors also are glad to come in with their private clubs, thus saving themselves the trouble of management and collection, and friendly societies arrange for their members to join.

[7] This procedure may be slightly modified if, and when, the office of District Medical Officer is abolished. Upon this matter the Commissioners say: "When the scheme which we propose is in full working order, the member of a provident dispensary will be able to choose his doctor from the list of those working with the dispensary. We recommend that certain cases in receipt of public assistance, such as the aged and widows with young children, might be enrolled as members, and their fees paid by the Public Assistance Committee. To ensure prompt attendance in cases of sudden and urgent necessity, we think that every doctor who joins the dispensary should be required to give an undertaking to attend any such case for a suitable fee. We hope that, ultimately, it may be possible to dispense altogether with the service of the district medical officer, and that his duties will be shared among medical men practising in the district. Meanwhile, arrangements might be made to retain the district medical officer on the staff of the provident dispensary."

"That, in all matters affecting medical assistance, there should be systematic co-operation between the Public Assistance Authorities, the Public Health Authorities, the Education Authorities, and the Voluntary Medical Institutions, based on a clear definition of their respective functions.

"That the medical and nursing needs of each area, whether institutional or otherwise, be reviewed, and, if necessary, supplemented, regard being had to the available provision made by Poor-law, sanitary, or voluntary authorities.

"That medical assistance should be organized on a provident basis.

"That a general system of provident dispensaries should be established, of which existing voluntary outdoor medical organizations be invited to form an integral part, and that every inducement should be offered to the working classes below a certain wage limit to become, or to continue to be, members of a provident dispensary. To this end the subscription to the provident dispensary should cover the following advantages to its members:

(*a*) Power to choose their own doctor from the doctors upon the list of the dispensary.

(*b*) The provision of adequate medical assistance at a rate or fee within the reach of those subscribing to the provident dispensary.

(*c*) Institutional treatment upon a recommendation from the dispensary doctor.

"That the Public Assistance Authority should have power to subscribe, if necessary, to the purposes indicated in Recommendations 114, 115, and 116.

"That medical treatment should be more readily accessible to all who are in need of it; that, in cases of illness in which immediate treatment is necessary, the physical condition of the patient should be the first consideration; that in such cases medical aid should be obtainable in the first instance by application to any medical officer in the service of the provident dispensary.

"That, except as regards the cases requiring immediate attention above referred to, all necessitous persons shall receive medical relief through the Public Assistance Committee.

"That certain cases in receipt of Public Assistance, such as the aged and widows with young children, might be made members of the provident dispensary on payment of the necessary fees by the Public Assistance Committee.

"That domiciliary medical assistance at the public cost should be conditional upon the maintenance of a healthy domicile and good habits.

"That no disfranchisement should be attached to any form of medical assistance."

MINORITY REPORT.

The Minority Report is signed by the Rev. Prebendary H. Russell Wakefield, Alderman and ex-Mayor of the Borough of Marylebone and Chairman of the Central Unemployed Body for London; Mr. Francis Chandler, Secretary to the Amalgamated Society of Carpenters and Joiners and ex-Chairman of Chorlton Board of Guardians; Mr. George Lansbury, member of the Borough Council and Board of Guardians, Poplar, and of the Central Unemployed Body for London; and Mrs. Sidney Webb.

It agrees with the Majority Report on many matters of principle.

It recommends the abolition of Boards of Guardians and the transference of their duty and property to the County and County Borough Councils strengthened for the purpose, which should act as Destitution Authorities according to the following plan, which is quoted in full:

"That the services at present administered by the Destitution Authorities (other than those connected with vagrants or the able-bodied)—that is to say, the provision for:—

(i) Children of school age;

(ii) The sick and the permanently incapacitated, the infants under school age, and the aged needing institutional care;

(iii) The mentally defective of all grades and all ages; and

(iv) The aged to whom pensions are awarded—

should be assumed, under the directions of the County and County Borough Councils, by

(i) The Education Committee;

(ii) The Health Committee;

(iii) The Asylums Committee; and

(iv) The Pension Committee respectively."

It recommends also that the general mixed workhouse should be abolished, and replaced by a system of classification and special treatment adapted to the requirements in accordance with the scheme outlined above.

MEDICAL RELIEF.

With regard to the Poor Law Medical Service and medical relief generally, the minority of the Commissioners report as follows:

"That the continued existence of two separate rate-supported medical services in all parts of the kingdom, costing, in the aggregate, six or seven millions sterling annually—overlapping, unco-ordinated with each other and sometimes actually conflicting with each other's work—cannot be justified.

"That the very principle of the Poor Law Medical Service—its restriction to persons who prove themselves to be destitute—involves delay and reluctance in the application of the sick person for treatment; hesitation and delay in beginning the treatment; and, in strictly administered districts, actual refusal of all treatment to persons who are in need of it, but who can manage to pay for some cheap substitute. These defects, which we regard as inherent in any medical service administered by a Destitution Authority, stand in the way of the discovery and early treatment of incipient disease, and accordingly deprive the medical treatment of most of its value.

"That it has been demonstrated to us beyond all dispute that the deterrent aspect which the medical branch of the Poor Law acquires through its association with the Destitution Authority causes, merely by preventing prompt and early application by the sick poor for medical treatment, an untold amount of aggravation of disease, personal suffering, and reduction the wealth-producing power of the manual working class.

"That the operations of the Poor Law Medical Service, being controlled by Destitution Authorities and administered by Destitution Officers, inevitably take on the character of unconditional 'medical relief'—that is, relief of the real or fancied painful symptoms—as distinguished from remedial changes of regimen and removal of injurious conditions, upon which any really curative treatment, or any effective prevention of the spread or recurrence of disease, is nowadays recognized to depend.

"That whilst domiciliary treatment of the sick poor is appropriate in many cases, it ought to be withheld—

(i) Where proper treatment in the home is impracticable;

(ii) Where the patient persistently malingers or refuses to conform to the prescribed regimen; or

(iii) Where the patient is a source of danger to others.

"It has become imperative in the public interest that there should be, for extreme cases, powers of compulsory removal to a proper place of treatment. Such powers cannot, and in our opinion should not, be granted to a Destitution Authority.

"That where Destitution Authorities cease to abide by the limitation of their work to persons really destitute, or pass beyond the dole of 'medical relief,' their attempt to extend the range or improve the quality of the Poor Law Medical Service brings new perils. We cannot regard with favour any action which, in order to promote treatment, openly or tacitly invites people voluntarily to range themselves among the destitute; or which tempts them, by the prospect of getting costly and specialized forms of treatment, to simulate destitution. Nor do we think that an authority charged with the relief of destitution, whatever its method of appointment or whatever the area over which it acts, or any authority acting through officers concerned with such relief, whatever their official designation, can ever administer a Medical Service with efficiency and economy.

"That, with regard to the suggestion that the medical treatment of the sick poor should be left either to provident medical insurance or to voluntary charity, it has been demonstrated to us that these offer no possible alternative to the provision for the

sick made by the Public Authority. With regard to domiciliary treatment, the evidence as to medical clubs 'contract practice,' provident dispensaries, and the out-patients' departments of hospitals is such as to make it impossible to recommend, in their favour, any restriction of the services at present afforded by the district medical officers and Poor-law dispensaries. Nor do we feel warranted in giving any support to the proposal made to us that the whole of this outdoor medical service of the Poor Law should be superseded by a publicly subsidized system of letting the poor choose their own doctors. Any such system would, in our judgement, lead to an extravagant expenditure of public funds on popular remedies and 'medical extras,' without obtaining, in return for this enlarged 'Medical Relief,' general regularity of life or more hygienic habits in the patient. With regard to institutional treatment, we gladly recognize the inestimable services rendered to the sick poor by the hospitals, sanatoriums, and convalescent homes supported by endowments or voluntary contributions. We approve of the use now made of these institutions by public authorities, and we think that many more suitable cases than at present might, on proper arrangements as to payment, be transferred from rate-maintained to voluntary institutions. But it is clear that such institutions provide only for a small fraction of the need, and that they leave untouched whole districts for some cases, and whole classes of cases everywhere, which there is no prospect of their being able or willing to undertake.

"That the Medical Service of the Public Health Authorities, which now extensively treats disease, and actually maintains out of the rates a steadily increasing number of the sick poor, is based on principles more suited to a State Medical Service than that of the Poor Law. These principles, which lead, in practice as well as in theory, to searching out disease, securing the earliest possible diagnosis, taking hold of the incipient case, removing injurious conditions, applying specialized treatment, enforcing healthy surroundings and personal hygiene, and aiming always at preventing either recurrence or spread of disease—in contrast to the mere 'relief' of the individual—furnish in fact the only proper basis for the expenditure of public money on a Medical Service.

"That such compulsory powers of removal in extreme cases, as have been asked for, are analogous to those already exercised, with full public approval, by the Public Health Authorities; and that the proposed extension of such powers can properly be granted only to an authority proceeding on Public Health lines.

"That we therefore agree with the responsible heads of all the four Medical Departments concerned—the Chief Medical Officer of the Local Government Board for England and Wales, the Medical Member of the Local Government Board for Scotland, the Medical Commissioner of the Local Government Board for Ireland, and the Medical Officer of the Board of Education—in ascribing the defects of the existing arrangements fundamentally to the lack of a unified Medical Service based on Public Health principles.

"That in such a unified Medical Service, organized in districts of suitable extent, the existing medical officers of health, hospital superintendents, school doctors,[8] district medical officers, workhouse and dispensary doctors, and medical superintendents of Poor-law infirmaries — the clinicians as well as the sanitarians—would all find appropriate spheres; that one among them being placed in administrative control who has developed most administrative capacity.

"That we do not agree with the suggestion that the establishment of a unified Medical Service on Public Health lines necessarily involves the gratuitous provision of medical treatment to all applicants. It is clear that, in the public interest, neither the promptitude nor the efficiency of the medical treatment must be in any way limited by considerations of whether the patient can or should repay its cost. But we see no reason why Parliament should not embody in a clear and consistent code definite rules of chargeability, either relating to the treatment of all diseases, or of all but those specifically named; and of the recovery of the charge thus made from all patients who are able to pay."

UNEMPLOYMENT.

Proposed Ministry of Labour.

The Minority Report discusses at length the question of unemployment and its prevention, and recommends the establishment of a Ministry of Labour with six Divisions, one being a National Labour Exchange, the function of which should be not only (*a*) to ascertain and report the surplus or shortage of labour of particular kinds, at particular places; and (*b*) to diminish the time and energy now spent in looking for work, and the consequent "leakage" between jobs; but also (*c*) so to "dovetail" casual and seasonal employments as to arrange for practical continuity of work to those now chronically underemployed.

For the ultimate residuum of men in distress from want of employment, who may be expected to remain, after the measures they recommend have been put in operation, the minority of the Commissioners suggest that maintenance should be freely provided, without disfranchisement, on condition that they submit themselves to the physical and mental training that they may prove to require. That it should be the function of the Maintenance and Training Division of the Ministry of Labour to establish and maintain receiving offices in the various centres of population, at which able-bodied men in distress could apply for assistance, and at which they would be medically examined and have their faculties tested in order to discover in what way they could be improved by training. They would then be assigned either to suitable day training depôts or residential farm colonies, where their whole working time would be absorbed in such varied beneficial training of body and mind as they proved capable of; their wives and families being, meanwhile, provided with adequate home aliment.

LITERARY NOTES.

A CORRESPONDENT raises a question of quantity in regard to the pronunciation of the word "vertigo." He says he has been taken to task for pronouncing it with the middle syllable long. There is no question that the *i* in vertigo is long in Latin. But English lexicographic oracles offer a choice. The Encyclopaedic (Lloyd) and the Standard Dictionaries (Funk and Wagnall) give both pronunciations, the former putting vertīgo first, the latter giving the preference to vertigo. We ourselves share that preference. It has the sanction of Swift, who was very strict in his prosody, and who writes in the lines about his own death (Sir Walter Scott's edition):

> That old vertigo in his head
> Will never leave him till he's dead.

Charles Lamb, too, writes:

> This sick vertigo here
> Preacheth of temperance, etc.

In both these cases the rules of scansion require vertīgo. On the other hand, there is the "genius of the English language" which tends to throw the accent as far back as possible. Therefore, if any one chooses to pronounce the word vertīgo, we should say with Dogberry, "Take no note of him, but let him go." We may quote, in illustration of the freedom which we think Englishmen should allow each other in matters of pronunciation—in accordance

[8] The question has been raised of the relation in which, with a unified Medical Service, the nascent medical activities of the Local Education Authorities should be placed. The question is one to be determined, in our opinion, by the dominant characteristics of the service. Within the limits of school age, the predominant service should be that of education; and the responsibility for the normal child should rest with the Local Education Authority. The case is different with the mentally defective child, for which the new Local Authority for the Mentally Defective will have the responsibility; and with the child withdrawn from school for definite illness, for which the Local Health Authority will be responsible. But when the child, without being so ill as to be withdrawn from school, requires the services of a doctor—as, for instance, in school medical inspection, in medical examination for scholarships, and in the treatment of minor ailments—we suggest that the Local Education Authority should, where the two Authorities are Committees of the same Council, not set up a medical staff of its own, but call in the Local Health Authority as its agent; just as it does already with regard to inspecting and certifying the drainage of the school building. On the other hand, where the children in the hospitals and sanatoria of the Local Health Authority are in need of education (a point now often neglected), we suggest that the Local Health Authority should not have its own teachers, but should call in the Local Education Authority as its agent. The case may be different where (as at present in England and Wales, outside the County Boroughs) the two Authorities are not Committees of the same Council, and do not serve the same areas. But even here arrangements could usually be made on similar lines.

with the practice of painters and poets, as laid down by Horace, *Hanc veniam petimusque damusque vicissim*—a story which, though old, is worth repeating. It was in the days when every professional man was supposed to have the classics at his finger ends, and, as Sidney Smith said, a false quantity perpetrated early in life often ruined a promising career. A Scottish advocate was pleading before the House of Lords, and repeatedly spoke of curātors. We think it was Lord Denman whose feelings were so ruffled by this pronunciation that at last he asked the learned counsel if curātor would not better grace his eloquent lips. The barrister at once retorted, "Certainly, my lords. In the presence of so many eminent senātors and illustrious orātors, I have not the slightest hesitation in speaking of curātors." Coming back to our correspondent's question, we are inclined to say that among medical men vertīgo is the generally accepted pronunciation.

Slainte (Health) is the name of a new monthly journal devoted to the diffusion of a knowledge of health and hygiene. It is to be the official organ of the Women's National Health Association, and it will appear under the editorship of the Countess of Aberdeen. It is intended to make the magazine thoroughly adapted to the needs of the Irish people, and the prevailing maladies and exceptional conditions of the country will be fully dealt with. The first number will contain a foreword and notes by the editor; an article on the results obtained in the home treatment of tuberculosis by the class method, by Joseph Pratt, M.D., of Boston, U.S.A., with photographs illustrating how sleeping places were contrived for patients on the roofs and in the yards of tenement dwellings; an article on what the Women's National Health Association can do to advance the cause of school hygiene, by T. Clarke, LL.D.; an account of the babies' clubs of Belfast; and a short story. In addition to the articles and notes, each number will form a record of work done by including the reports of the various branches of the association. The publishers are Messrs. Maunsel and Co., 96, Middle Abbey Street, Dublin.

"The Mosaic Sanitary Code and its Relation to Modern Sanitation" was, we learn from the *Yorkshire Daily Observer*, the subject of a highly interesting and valuable paper read by Mr. P. M. Raskin, of Leeds, before a general meeting of the North-East Centre of the Sanitary Inspectors' Association. Mr. Raskin said there was not a distinct department of public health in the government of ancient Judea. The duty of dealing with infectious disease, such as leprosy and epidemics of all kinds, was delegated to the priests. The Talmud mentioned the office of a physician in the Temple, whose duty it was to look after the health of the High Priest. In later times, however, according to the Talmud, every town counted among its permanent officials a physician who supervised the circumcision of children and looked after the communal well-being. A theological student was even forbidden to live in a place where there was no physician. The main provisions of the Mosaic sanitary law related to (1) the prevention of infectious disease; (2) food and diet; (3) sewage and refuse disposal; and (4) domestic sanitation, ablutions, baths, and general cleanliness. The laws with reference to infectious disease, as laid down in Leviticus and Numbers, seemed to be based on the principle that as infectious diseases were mostly communicated by contact, all cases of such were to be isolated; that all contact with any centre of infection was to be avoided; that when such contact, in unavoidable circumstances, had taken place, there must be first segregation to prevent the spread of infection, and finally purification before the infected person could be readmitted into society. The great scourge in many parts of the East, as Egypt, Arabia, etc., still was leprosy. The Mosaic laws, therefore, lay down stringent rules for preventing the spread of the terrible malady. Infected clothing was to be burnt, an infected house had to be emptied, the infected parts of the building removed, and the walls scraped. If the malady recurred, the whole house had to be demolished and the materials removed to an unclean place outside the camp, and never used again. The priest, who seemed to have acted as medical officer of health and sanitary inspector combined, had to diagnose every suspicious case and to visit infected houses, and then finally declare them clean or unclean. Every corpse was considered a possible centre of infection, and those who touched a corpse, or were under the same roof as a corpse, or who touched a grave, were regarded as unclean, and had to purify themselves. Modern sanitarians, said Mr. Raskin, might prefer to disinfect a house with carbolic acid, sulphur, or formalin than with the Biblical caper-bush hyssop, but this possessed great disinfecting properties and was very likely the best disinfectant of the time. The laws as to food might also be classed under the head of sanitary laws, for they might be fairly considered to have been ordained in the interests of health, moral and physical. The prohibition against eating blood, repeated in the Pentateuch not less than five times, exclusively belonged to the Mosaic law, and must have been made on sanitary grounds, both in the immediate and wider sense of the term. The immediate reason for this prohibition was probably because blood was considered the likeliest vehicle for the entrance of the germs of disease into the human system. The further command to cover all blood with earth (to disinfect it) lent additional ground to the supposition that blood was considered unclean from a sanitary point of view. Passing to the provisions made by Moses for the disposal of sewage and refuse, Mr. Raskin said he believed there was no direct indication in the Pentateuch about the method in vogue in ancient Judea for the disposal of such matter. But according to Josephus Flavius, who wrote about 75 A.D., and a later Biblical commentator, David Kimbi, perpetual fires were kept up outside the gates of Jerusalem for the purpose of consuming the refuse of the city. If this were the case, then the problem of refuse disposal must have been solved in ancient Judea in as efficient a manner as in our own time. In the ancient Judean Public Health Act of about 450 B.C., provision was also made for dealing with offensive trades. The Talmudists regarded the laws of health as of greater importance than those which were of a merely ritualistic character. It was forbidden to eat the meat of an animal that had eaten poison, or to drink water left uncovered overnight. Coins were not to be placed in the mouth, as they might have been touched by persons suffering from infectious disease. It was likewise forbidden to eat from unclean vessels, or from vessels that had been used for unseemly purposes, or to eat with dirty hands. The washing of the hands and face in the morning was considered very important. There was also the custom of washing the hands before and after meals. Mr. Pridgin Teale, who was in the chair, said the paper was one of the most remarkable and interesting the association had had addressed to them. He had given a short account of the discovery in Crete of terra-cotta pipes for carrying water in a house, and the period must have been about 2000 B.C. And it seemed that from that remote age until seventy or eighty years ago civilization had not been in the habit of using terra-cotta either for water carriage or drainage. It must have been the adherence of the Jewish community to the rules laid down in the ancient code which had given them their wonderful vitality. He had often wondered, when an ancient Jewish community grew to such a size that it was difficult to carry out all the details of the code, if provision were made for emigration. Nearly every one of the greatest cities of antiquity had disappeared, and he had had the impression that such places as Babylon and Nineveh had grown to such a size that in the end the sanitary arrangements could not be carried out, and thus the sites had become unhealthy and destructive to life.

SOUTHWOLD LIBEL CASE.

THE following additional donations have been promised to the fund opened to assist Drs. Mullock and Tripp in defraying the heavy expenses which they incurred as the result of the recent action which they were called upon to defend:

	£	s.	d.
Dr. S. Johnson Taylor (Norwich)	5	5	0
Anonymous	4	4	0
Anonymous	2	2	0

Cheques should be made payable to Dr. H. P. Helsham, Beccles, or to Dr. W. Tyson, Lowestoft.

Medical News.

THE eighth International Congress of Otology will be held at Buda-Pesth next August.

DR. SCHUMAN LECLERCQ, of Carlsbad, has been made Chevalier of the French Legion d'Honneur.

THE annual general meeting of the Association of Certificated Dispensers will be held in the Apothecaries' Hall, London, on Thursday next at 7.30 p.m.

AN association for the repression of venereal diseases has been founded at Warsaw. It comprises two sections: one social and legislative, the other medical.

A SUM of £1,080 has already been collected for the erection of a monument in memory of the late Professor Cornil. M. Fallières, President of the French Republic, has given £12 to the fund.

AT the January examination for sanitary inspectors under the Public Health (London) Act, 1891, held by the Sanitary Inspectors' Examination Board, 19 candidates passed, of whom 9 were women.

A GOVERNMENT Laboratory of Bacteriology has been founded in Warsaw. The director is Dr. Tscharnozky. The laboratory is intended chiefly for the purposes of veterinary and public health researches.

THE German Emperor has conferred upon Sir James Reid, Bart., Physician-in-Ordinary to the King and the Prince of Wales, the First Class of the Order of the Crown, on the occasion of the visit of their Britannic Majesties to Berlin.

THE Cross of a Commander of the Francis Joseph Order has been conferred upon Professor Koloman Mueller, of the Medical Faculty of the University of Buda-Pesth. Professor Mueller is a member of the Hungarian House of Magnates.

THE University of Heidelberg has received from a foreign benefactor interested in the advancement of science the sum of £6,500 towards the foundation of a radiographic institute. It is expected that the institute will be in working order by Easter.

DR. JAMES ROSS WATT, of Ayr, President of the Ayrshire Branch of the British Medical Association, has, on the recommendation of the Earl of Eglinton and Winton, Lord Lieutenant of the county, been appointed a Justice of the Peace for Ayrshire.

AT a conference on women's lodging houses to be held at the British Institute of Social Service, 11, Southampton Row, London, W.C., under the presidency of Sir John Kirk, Director of the Ragged School Union, on Wednesday next, at 4 p.m., it is proposed to form a small committee to consider how to forward the national provision of safe shelter for unprotected women.

WE learn from the *Boston Medical and Surgical Journal* that radium has been for the last five years in continuous use in a clinic at the Boston City Hospital. Although without the designation, a radium institute has in a way existed there, where questions relating to the physics of radium have been studied as a guide to the intelligent use of it in the treatment of the patients.

ON the occasion of their leaving Orsett, Dr. and Mrs. Corbett were presented by their friends with a handsome grandfather clock, an illuminated address, and a purse of 50 guineas, as a mark of respect. Dr. Corbett, in acknowledging the presentation, regretted that owing to bronchial attacks he had been recommended to leave Orsett, after residing there for seventy years, and take up his residence in a warmer place.

The address by Sir Thomas Oliver on some medical and insurance problems arising out of recent industrial legislation, given before the Life Assurance Medical Officers' Association on November 4th, 1908, as reported in our columns of November 14th, page 1496, has been printed in a pamphlet, together with a report of the meeting on December 2nd, when the discussion of the paper was continued. Copies can be obtained on application to the honorary secretaries of the society (2, Frederick Place, Old Jewry, E.C.), price two shillings.

THE United States Senate on January 26th passed a bill forbidding the importation of opium into the States except for medicinal purposes, and then only under strict regulations to be prescribed by the Secretary of the Treasury. All other forms of opium, smoking opium, or any derivative of opium, are, according to the *Medical Record*, absolutely shut out. Possession of the forbidden drug, it is expressly stated, shall be deemed sufficient evidence to convict, and offenders may be punished with two years' imprisonment and a fine of £1,000.

THE fourth meeting of the Departmental Committee appointed by the Lord President of the Council to consider the working of the Midwives Act was held on February 17th at the Privy Council Office, Mr. Almeric W. FitzRoy presiding. The following witnesses attended and gave evidence: Miss Wilson, President of the Incorporated Midwives Institute; Mr. F. B. Harris, Deputy Town Clerk of Nottingham, on behalf of the Association of Municipal Corporations; Mr. Joseph Brown, of Dewsbury, on behalf of the Association of Poor-law Unions in England and Wales; and Mrs. Wallace Bruce, on behalf of the Association for Promoting the Training and Supply of Midwives.

THE members of the West London Medico-Chirurgical Society dined together at the Hotel Great Central, Marylebone, on February 12th, with Colonel T. H. Hendley, I.M.S., in the chair. Mr. R. Lake proposed the toast of "The Imperial Forces" in a patriotic speech, which was acknowledged by Inspector-General J. Porter, R.N., who emphasized the importance of attracting the best men to the naval medical service, as it was necessary to keep the men in the Navy in health because they took so long to train that it was not an easy matter to replace them. Sir Richard Douglas Powell, in submitting the toast of "The West London Medico-Chirurgical Society," spoke of the influential position it had attained in the course of its twenty-seven years of existence. The Chairman, in replying, gave a short account of the work and progress of the society during the past year. The toast of "Kindred Societies and Guests" was proposed by Mr. L. A. Bidwell, and was responded to by Sir William Church and Dr. W. P. Herringham. Mr. Aslett Baldwin, who was in charge of the arrangements for the dinner, was heartily congratulated on the successful result of his efforts.

THE annual meeting of the After-Care Association, established thirty years ago, to aid poor persons discharged recovered from asylums for the insane, was held on February 3rd at the house of Dr. Savage, who presided. Amongst those present were the Bishop of Croydon, Mr. H. J. Tennant, M.P. (Parliamentary Secretary to the Board of Trade), Dr. D. Nicolson, C.B. (Lord Chancellor's Visitor), Dr. E. M. Cooke and Mr. A. H. Trevor (Commissioners in Lunacy), Drs. Blandford, Bond, Bower, Robert Jones, Percy Smith, Shuttleworth, and others, including many ladies. The report of the council, read by the Secretary (Mr. W. Thornhill Roxby) stated that much individual care and attention was needed in suitably placing persons, who though recovered from insanity, were frequently the subjects of peculiarities and prejudices. During the year 1908 no less than 388 applications for aid had been received, and with few exceptions the 248 women and 140 men had been successfully helped. Personal influence exercised by the office staff was an essential factor in dealing with these cases, and timely and tactful intervention often prevented relapses. The receipts for the year amounted to £1,054 and the expenditure to £879; £50 had been granted by the City Corporation, and the City Companies had been good friends of the association. A Guild of Help had been instituted in connexion with the association, and two new local branches had been formed. Mr. Roxby pleaded for punctual payment of subscriptions and for new ones, which would be gratefully received at the offices of the association, Church House, Westminster. The adoption of the report was moved by the chairman (Dr. Savage) and was seconded by the Bishop of Croydon, who laid stress on the necessity of supporting this very useful charity, which was the only one existing in the United Kingdom for helping mental cripples who had fallen out by the way to regain the industrial high-road of life's journey. Such a task was often beset with difficulties, but he was thankful to say the word "impossible" had passed out of the vocabulary of the noble profession of medicine. Dr. Nicholson and Dr. Blandford, in supporting, referred to some of the improvements that had taken place in the working of the association, and commended it to a greater share of public support. Mr. H. J. Tennant, Mr. Woolcombe, Dr. Marriott Cooke and Mr. Trevor also spoke, and after the adoption of the report and the election of officers, Dr. Robert Jones, of Claybury, read portions of a paper entitled The Urgent Need of Helping Mental Convalescents, pointing out that over 8,000 persons were reported in the Lunacy Commissioners' Blue Book from 1908 to have been discharged recovered from asylums in England and Wales, 1,228 from the London asylums alone, of whom 705 were women, at least one-tenth of whom were friendless and another tenth were without friends able to render them assistance. It was imperative, in the public interest, and from the point of view of preventing relapse, that these poor people should be adequately assisted, and that this society should be furnished with means to extend its beneficent work. The meeting closed with a vote of thanks to the chairman and host.

British Medical Journal.

SATURDAY, FEBRUARY 20TH, 1909.

THE MEDICAL SCHEMES OF THE POOR LAW COMMISSION.

THE Royal Commission on the Poor Laws and Relief of Distress has not avoided that pitfall and reproach of such commissions which is indeed bringing the whole system into discredit—a minority report. In this instance the minority report, signed by four out of the eighteen members of the Commission, is called a separate report, and in length it does not fall far short of the majority report, for it occupies 500 folio pages. We give elsewhere in this issue (p. 479) a general account of both reports, and reproduce textually the principal recommendations with regard to medical relief.

Both reports recommend the abolition of boards of guardians; the majority proposes to set up in their place a statutory committee of the county council or county borough council, to be called the Public Assistance Authority, consisting as to one-half of members of the council, and as to the other of persons experienced in the local system of relief appointed by the council from outside. This authority would set up and supervise Public Assistance Committees, the areas of which would at first be the existing union areas. The recommendation of the minority report is really very similar, since it proposes that the county and county borough councils, strengthened in numbers for their enlarged duties, should replace the boards of guardians and become the Destitution Authorities for the counties, and should appoint education, health, asylums, and pension committees. Both the majority and the minority recognize the necessity for the classification of persons, whether children, aged, sick, able-bodied, vagrant, or feeble-minded, and that to make indoor relief effective it should be given in separate institutions to the various classes.

One of the chief points of divergence between the majority and minority is with regard to medical relief. The majority recommend that medical assistance should be reorganized on a provident basis, in accordance with the recommendations of the report of the British Medical Association on contract practice, and of the results of Dr. McVail's special investigation made for the Commission. It would be the duty of the Public Assistance Authority to co-ordinate, and if necessary supplement, existing medical institutions, and to suggest methods of co-operating with the sanitary authorities and with voluntary hospitals. It would also be its duty to organize an outdoor provident medical service, easily accessible from all parts of the county or county borough, and to include the provision of competent midwives; to develop a nursing service, preferably in connexion with voluntary nursing associations; to subscribe towards these purposes, and to supervise and report on the efficiency and adequacy of the medical institutions and medical service in the county or county borough.

The Public Assistance Authority would appoint a committee consisting of members of the authority, with representatives of the Health Committee of the county, or county borough councils, and of the local Branch or Divisions of the British Medical Association. This Medical Assistance Committee, it is recommended, should have power to co-opt representatives of local hospitals, nursing associations, dispensaries, and registered friendly societies. There would be power to appoint Local Medical Assistance Committees, constituted on similar lines, to which the local administration of medical assistance might be delegated. The Public Assistance Authority, acting in conjunction with the Local Medical Assistance Committee, would organize medical relief both with regard to in-patients and out-patients. It would reorganize existing Poor-law medical institutions with the view of making them as effective as possible for different classes of patients, and it would organize schemes of co-operation between institutions under the direct control of the Public Assistance Authority and voluntary hospitals; it would develop gradually a system of paying and free cottage hospitals in conjunction with voluntary and endowed charities, to include provision for confinement cases, and it would arrange schemes of co-operation between hospitals and the provident dispensaries or outdoor medical service

The proposals for an Outdoor Medical Service are founded strictly on the provident principle; it is recommended that the Local Medical Assistance Committee should, in conjunction with the local profession, map out its district into convenient medical districts or dispensary areas, utilizing existing buildings in popular places, the doctor's own surgery in medium districts, and a room in a cottage where the population is sparse. The Local Committee would invite free or provident medical institutions, including private medical clubs already existing in the district to fall in with the scheme, and would have power to subscribe to provident dispensaries subject to the sanction of the Local Government Board. Whether co-operation of existing organizations could be secured or not, it would be the duty of a Local Medical Assistance Committee to establish a general system of provident dispensaries, and to offer every inducement to the working classes below a certain wage limit to be members of a provident dispensary, each member to be entitled, (1) to choose his own doctor from the doctors upon the list of the dispensary, (2) to adequate medical outdoor assistance, and (3) to in-patient treatment upon the recommendation of his dispensary doctor. If an applicant for medical assistance is not a member of a provident society he would be entitled to apply and at once be treated by a district medical officer; but the Commissioners hope that ultimately it may be possible to dispense altogether with the service of the district medical officer, and that his duties will be shared among medical men practising in the district. Meanwhile, arrangements might, they think, be made to retain the district medical officer on the staff of the provident dispensary.

The Commissioners recommend that, with a view of enlisting the services of medical practitioners in the locality of a provident dispensary, the British Medical Association should be requested to suggest a general scheme or scale of fees and wage limit to be applied by its local Divisions as local circumstances may suggest. A list of dispensary doctors containing the names of all local medical practitioners

willing to come into the scheme would be formed, and any dispensary member would be entitled to choose his own doctor. The dispensary doctor would have the power to recommend a patient for indoor treatment, whose admission under such conditions would be covered by his subscription to the provident dispensary. In order to meet the case of aged persons and widows with young children, it is recommended that the Public Assistance Committee should have power to pay the necessary fees to make them members of the provident dispensary. There remains the case of those persons who do not belong to provident dispensaries and cannot be induced to join. The Commissioners recommend that in illness demanding immediate treatment the physical condition of the patient should be the first consideration, and that he should be entitled in the first instance to apply to any medical officer belonging to the provident dispensary; but that the relieving officer, to be called in future the Assistance Officer, should be required to report the case to the Public Assistance Committee with the view of recovering the cost and strengthening provident agencies. If the case is not urgent, all necessitous persons should receive medical relief through the Public Assistance Committee. Finally, the Commissioners recommend that medical assistance in the patient's home given at the public cost should be conditional upon the maintenance of a healthy domicile and good habits, and that no disfranchisement should be attached to any form of medical assistance.

The separate report of the minority is a discursive document containing many passages of fervent eloquence, even its summary of conclusions reading more like an article in a monthly magazine than the serious recommendations of a Royal Commission for fresh legislation. It is largely occupied with a discussion of the prevention and cure of unemployment, and suggests the establishment of a Ministry of Labour, one of whose duties it would be to organize a National Labour Exchange. With regard to medical relief, the minority accept the suggestion, considered and rejected by the majority, for a unified medical service in which medical officers of health, hospitals superintendents, school doctors, district medical officers, workhouse and dispensary doctors, and medical superintendents of Poor-law infirmaries—clinicians and sanitarians alike—would all find appropriate spheres. They suggest that the person among all these clinicians and sanitarians "who has "developed most administrative capacity" should be placed in control in each locality, but they do not indicate how this individual is to be selected. They condemn the provident scheme of the majority, for the curious reason that they believe it would lead to an extravagant expenditure of public funds on popular remedies and medical extras without obtaining in return greater regularity of life or more hygienic habits in the patients. They recommend, therefore, the continuance of the outdoor medical service of the Poor Law. They do not give in detail any scheme for carrying out their recommendations, contenting themselves, so far as we can see, with recommending the establishment of a "unified Medical Service on Public Health "lines," believing that it would, by searching out disease, securing early diagnosis, treating incipient cases, enforcing healthy surroundings and personal hygiene, prevent recurrence or spread of disease in contrast to the mere relief of the individual. That the report of the minority contains many valuable suggestions may be admitted, and as it is to be published in a separate volume as a book, it will no doubt receive all the attention from the public that it deserves; but its proposals with regard to medical relief appear to us to be nebulous and insufficiently considered.

THE HUNTERIAN ORATION.

On February 15th the Royal College of Surgeons held its annual festival in commemoration of John Hunter, the founder of its unrivalled museum. The Hunterian Oration was delivered by the President, Mr. Henry Morris, to a distinguished assembly, conspicuous in which was the Prince of Wales, who was that day admitted, like his Royal father, to the Honorary Fellowship of the College. It must be as difficult to find anything new to say about John Hunter at this time of day as it is for the Orator whose duty it is year by year to say anything fresh of William Harvey at the sister college. The President was fully equal to the occasion, and among the sixty-four previous Orations there is probably none more interesting in itself, more ingenious in its argument, more felicitous in its illustrations, or more graceful in diction than that delivered on Monday last.

It is likely enough that John Hunter would have been almost as much surprised to hear himself discussed as a philosopher as M. Jourdain was to learn that he had been speaking prose all his life. We should not indeed wonder if he looked upon the "philosophers" of his time in the same light as he regarded the scholars—that is to say, as old women. It suggests curious reflections to note how blind the most distinguished of his contemporaries were to the greatness of the man who was striving to throw light into dark places where secrets of the utmost importance to man were hidden, and laying the foundations of a new knowledge of which they had no notion. Samuel Johnson was intimate with the leading men of his day, and he had a special liking for medical practitioners of all grades. This makes it all the more remarkable that, although William Hunter is mentioned in a letter to Sir Joshua Reynolds, we think we are right in saying that the name of John Hunter does not appear in Boswell's Life of "the great Cham of literature," as Smollett called him. Johnson was to some extent interested in natural history, and he said that Goldsmith was writing a *History of Animated Nature* which he would make as entertaining as a Persian tale, though he thought that if he could tell a horse from a cow that was the extent of his knowledge of zoology. What Macaulay said of Panizzi long afterwards—that he would give ten mammoths for an Aldus—might have been said of Johnson. It may pretty confidently be assumed that John Hunter's lack of literature, to use the language of that day, would in any case have made him seem to Johnson as one outside the world of learning. And Johnson, in an intellectual sense, to the eighteenth century in England exemplified, in Hamlet's words, "the very age and body of the time, "his form and pressure." It must be remembered that Haller and the other anatomists and men of science of that time were all skilled in the learning of the schools. Mr. Morris agrees with Buckle that it was not Hunter's defective education that made him obscure in his statements. He says rightly enough that, "with educated and uneducated alike, "the power of clear expression depends on clearness 'of thought." But the faculty of clear thought,

though a natural gift, is developed by education. Even when education has done its best, the clearest thinkers will, we imagine, agree with Goethe that "the worst of it is that it is hard to think." John Hunter, in his efforts to express his ideas, reminds one of Burns's description of himself as "a blind "Cyclops groping round his cave." If a poet felt the want of education so keenly, the same want, whether felt or not, must have hindered far more seriously the utterance of a man of science, especially of one who had so much to teach, if he could have put it into words that accurately conveyed his meaning.

Of Hunter's method of inquiry, Mr. Morris says that he combined in an exceptional degree the two philosophic methods—deduction and induction. Though born and brought up in Scotland, where in his day the deductive method of reasoning prevailed, Hunter very largely used the inductive method, which since Bacon has been characteristic of English thought. We think it may be gathered from Mr. Morris's own illustrations of Hunter's method that, while deduction often led him astray, a great part of his permanent additions to knowledge was arrived at by the less flowery and more toilsome but surer road of induction. As Mr. Morris says, "When reasoning "deductively he so much relied on his premisses that "he sometimes refused to accept any evidence by "which they were impugned." This, of course, is the special weakness of the deductive reasoner, and examples of it are still too common even among high scientific authorities at the present day. "It was "not," as Mr. Morris says, "as a logician, but as an "observer and experimenter that Hunter excelled; "it was not the beauty of his logic, but the "industry with which he collected facts, and the "ability and honesty with which he reasoned from "them, which made Hunter great." His method is summed up in his well-known but too often misquoted recommendation to his pupil, Edward Jenner: "Why "think—why not try the experiment?" Of course, what Tyndall called the scientific use of the imagination has a great place in research; it is this that makes the difference between those humble but necessary workers whom Huxley called the hodmen of science and the builders of the Temple of Truth. But the unscientific use of the imagination has often led men into quagmires by following Will-o'-the-wisps, whereas facts once established go to make up the solid foothold for which Archimedes asked that he might move the world. Of course, they may be misinterpreted, and in themselves they are like dry bones till life is breathed into them by the generalizing mind that can see their meaning and their relation to each other. Hunter was at once a collector of facts and an interpreter of them. Whether he was ever consciously deductive or inductive in his thought may be doubtful. In any case he had the genius which, like Sentimental Toomy, can "find a wy," and his place is among the immortals of our race.

THE ANTITRYPTIC ACTION OF HUMAN SERUM.

WITHIN a period of little more than ten years a branch of science has developed with such rapidity that even those actively engaged in its study have no little difficulty in mastering all the theories suggested and propounded, and have still more difficulty in selecting from among these theories those worthy of serious attention. The subject is immunity. Although the work of Nuttall stands in very close relation to the present line of thought and dates back to 1888, the actual revolution in the conception of immunity appears to have taken place in 1897, when Ehrlich enunciated his "side-chain" theory. A few years previously Buchner had written on the bactericidal functions of serum, but Pfeiffer was practically the first to study and explain the phenomenon of bacteriolysis. This he did in 1894. Haemolysis next attracted the attention of workers, and the names of Bordet, Ehrlich, and Morgenroth, among others, are associated with the subject. The discovery of the phenomenon of agglutination arose out of the work which Grünbaum, Gruber, and Durham carried out in 1894, and shortly afterwards independently by Widal. Precipitins and a number of other concepts also date back to about 1897 or a little later.

Since the early work of this kind it appears to have become a fashion to translate all biological phenomena into the action of definite specific chemical substances, and those who accept this view must be prepared to accept an indefinitely large number of constituents in the serum of normal and diseased animals. The mere mention of the large number of cytolysins, the so-called bacteriotropic substances, the allergens, the aggressins, and the anaphylactins, to mention only a few examples, will suffice to show that an almost incredible complexity exists in this branch of research. It might be well to pause and inquire whether the appearance of phenomena, each of which is supposed to depend on one specific substance at least, is sufficient evidence of the existence of such a substance, or whether, like so many physiological processes, the function of a complex structure may not be complicated, according to the conditions governing the exercise of function. In other words, is it not reasonable to believe that blood plasma, which is a highly complex fluid, and which is certainly not biologically identical with serum, may have the property of killing bacteria or inhibiting their growth, of dissolving certain foreign blood cells, of precipitating certain forms of proteid, of exercising now a positive, now a negative chemiotaxis with regard to the leucocytes, and so forth, without possessing a special constituent for each of these phenomena?

One argument against the assumption of special specific chemical substances is to be found in the fact that rabbit's serum possesses a marked haemolytic action for guinea-pig's blood cells. Under what circumstances outside the laboratory can rabbit's serum (not plasma) come into contact with guinea-pig's red blood corpuscles? Yet we are asked to believe that a special substance exists whose one and only function is to dissolve these foreign cells. Perhaps in time much of the confusion which now reigns in regard to these multitudinous phenomena and functions may be cleared up; but so far from this being the case at present, almost each day brings a report of fresh immune "substances."

While the power of human serum to inhibit the action of trypsin is not a new idea, and especially since it has been found possible to immunize guinea-pigs against the action of this ferment, L. Brieger and J. Trebing[1] have grappled seriously with this problem. It had already been shown that the serum of persons suffering from croupous pneumonia exerted a heightened antitryptic power up to the onset of the crisis, when the power is markedly diminished. Ascoli and Bezzola look upon tryptic digestion as due to two components, one of which is contained in the

[1] *Berl. klin. Woch.*, June 1st, pp. 1041-1044, and July 20th, 1908, pp. 1319-1351.

pancreatic juice, while the other, which they call "kinase," is produced by the leucocytes. The increase of the inhibitory action is thus regarded as being due to an antikinase. Brieger and Trebing tested the inhibitory action by mixing serum with a 1 per cent. solution of trypsin in varying proportions, allowing a measured quantity of the mixtures to act on ox-serum plates kept at 55° C. for twenty-one hours. They found that the normal serum inhibited the digestion when 1 part of serum was mixed with 4 parts of the trypsin solution in some cases, while in a few others, when 1 part was mixed with 6 of trypsin, the process was stopped. They record this as a reaction with 1 in 4 or 1 in 6. Next, they examined the serum of a number of persons who were suffering from carcinoma. In nearly all the cases the inhibitory reaction was marked in the proportion of less than 1 in 6, 1 in 10 being the most common. In 4 cases, in 2 of which the diagnosis was not confirmed by the microscope, the reaction was present at 1 in 4. One of the remaining two was suffering from very advanced disease, while the other was a case of epithelioma, which may differ in its essentials from true carcinoma. The serum of persons suffering from diseases other than carcinoma frequently yielded a normal reaction. Nevertheless, the observers found that in cachexia from other causes, such as pernicious anaemia, nephritis, etc., the inhibition was well marked. A curious fact was elicited in testing the blood of persons suffering from cancer and other diseases who had been given pancreatin by mouth; the inhibition decreased, and in carcinomatous cases has returned to normal, to increase again a few days after the drug was left off. In persons suffering from other affections, whose serum showed a normal reaction, the degree of inhibition rose during the exhibition of the pancreatin.

Brieger and Trebing are inclined to the view that, if considered together with the clinical signs, this serum reaction has some value in the differential diagnosis of carcinoma. The claim which Salamon makes of having first pointed out that the serum of carcinoma patients possesses an antiproteolytic action need not confuse the issue, since he did not work with tryptic digestion, and his diagnostic method differed considerably from that of Brieger and Trebing. Whether this antitryptic power of serum can in fact be used for diagnostic purposes depends on the practical experience of clinicians, and can be determined only by careful study; but it would be of considerable interest to learn on what physical, chemical, or biological basis the phenomenon is founded. That it is not purely specific has already been clearly shown.

THE ROYAL COMMISSION ON VIVISECTION.

WITH the evidence of Professor D. J. Hamilton, published in this week's issue, we bring to a close the summary of the evidence given before the Royal Commission on Vivisection. The labour of summarizing so huge a mass of material has not been light. Some idea of the magnitude of the task may be formed from the fact that a rough estimate shows that the evidence has been reduced to about one-quarter of that reported in five Blue Books. Often during the long-drawn-out process we have said with Antonio, speaking to his friends about his sadness, "it wearies me"; and we have no doubt that we should have expressed the thought of many readers if we had added, "You say it wearies you." We had a strong feeling, however, that the task, though tedious and in some ways disagreeable, was necessary for the enlightenment of many who for one reason or another may not have given attention to the subject. Few people who are not members of Parliament have ready access to Blue Books, and we should imagine that comparatively few of those who enjoy that privilege ever take advantage of it. The whole case for and against vivisection has now been placed before the profession, and we advise all who take part in newspaper or platform controversies on the subject to read and study it carefully. We have purposely given greater space to the antivivisectionists than to the witnesses on the other side; for instance, no fewer than twenty-nine pages of the JOURNAL were devoted to the evidence of Mr. Stephen Coleridge alone. We did our best to bring out all the essential points in their evidence, and the fact that not a single complaint, except one relating to a trifling and obvious misprint, has reached us, may be taken as a proof of the fairness of our abstracts. No one who reads the evidence with a mind open to conviction can, we think, fail to be struck by the flimsiness and futility of the antivivisectionist testimony. One wonders how some of the witnesses could havebeen put forward to speak of matters as to which they were obviously almost wholly ignorant and to give evidence which was so easily dissipated into air by the lightest touch of cross-examination. It is not surprising, therefore, that antivivisectionists have expressed their opinion as to the manner in which their case has been put forward by some of their representatives in terms the reverse of flattering. It cannot be pleasant to see a cause towards the support of which one has been induced to give money in the belief that it was built on the solid rock of truth crumble into dust because it rests only on a rotten scaffolding of "platform facts."

LONDON TERRITORIAL DEFICIENCIES.

OWING apparently to the popularity of the play "An "Englishman's Home" at Wyndham's Theatre, and the efforts of some widely circulated newspapers, there is at the present moment a mild territorial boom in London; but if their general readiness is to be judged from the dilatoriness displayed with regard to the medical branch, it is to be feared that the London County Associations are not fully prepared to take advantage of the interest which has been excited. There will be found at page 504 a short account of the present position of the medical units of the two Divisions, First and Second, of the Territorial Force which London is called upon to provide. It can only be described as extremely unsatisfactory, and there can be no hesitation in asserting that the London County Associations must accept the responsibility for this. The position of the First Division, which has been much assisted by the City of London County Association, is better than that of the Second Division, which is dependent upon the County Association for the rest of London. The main cause of the difficulty in completing the organization is the want of head quarters and drill halls. The First Division, indeed, has head quarters which it inherited from the volunteer companies, but they are not adequate. The position of the Second Division is much worse, inasmuch as it has no head quarters nor any place, except certain drill halls at Woolwich, where men can be trained. Such a state of things is disheartening to the officers, who are giving time and energy without any commensurate result, and must of course greatly discourage recruiting. We are aware that the London County Association suffers from want of money, but

we venture to think that, with a little good will, head quarters and drill halls might speedily be found in some convenient part of western or south-western London.

SPIRITUAL HEALING.

THE Church and Medical Union, to the formation of which reference was made in the JOURNAL of November 28th, 1908, p. 1635, held a meeting on February 16th, at which a paper on The Gift of Healing was read by Lieutenant-Colonel J. S. Hepworth. He said the Church should go hand in hand with the physician and proclaim to the world her mission to heal the sick body as well as the soul. Hitherto no organized attempt had been made to bring into harmony the teaching of the Church and medical science. At Boston, said the lecturer, where healing homes had been established, it had been found that the root of the mischief in the patient had been the deliberate thrusting of religion out of the life. He quoted a paragraph from the report of the Lambeth Conference embodying the principles which the union adopted. In that paragraph it was stated that "medical science is "the handmaid of God, and should be fully recognized as "the ordinary means appointed by Almighty God for the "care and healing of the human body." "The committee," it was added, "believes that discoveries in the region "of medicine and surgery come to man through Him "who is the light and the Life, the Divine Word." The lecturer went on to say that to be practical Churchmen they should place prayer first. Cases must be taken in hand by their spiritual rulers. "In each diocese there should be a healing house, "where resident clergy, selected and set apart for the "work by the bishop, should reside in community with "resident physicians, selected, say, by the Medical "Association, ready at all times to attend to the wants "of the people, poor and rich alike. Ultimately every "large parish or large centre of religious work should "have its resident clerical healer as part of its staff." After some discussion, the Rev. Percy Ellis, Vicar of St Mary's, Tothill Fields, said the gift of healing still belonged to the Christian community represented by medical men. He deprecated Colonel Hepworth's suggestion that religious healing should be made part of the practical Church organization. Neither the clergy nor the people were prepared for this, and a long time must elapse before they were ready for anything like an organization tacked on to any parish or diocese for that particular work. If a mistake were now made the result would be injurious to a great and good cause. Colonel Hepworth seems to us to have altogether misconceived the purport of the deliverance of the Lambeth Conference which he quotes, and we are glad to note that the Rev. Percy Ellis is alive to the mischief that may be done by too much zeal in the direction of spiritual healing. What has happened at Emmanuel Church, Boston, should be a warning to enthusiasts at home, who, if we may judge from Colonel Hepworth's statements, have not followed the movement so closely as might appear from their confident assertions. We do not think we can give reasonable cause for offence to any sensible religious person in saying that a claim to the possession of the gift of healing on behalf of the Church is a dangerous delusion. The medical profession, we repeat, is willing to co-operate with the clergy, recognizing the great help that a mind at ease is to the efficiency of medical treatment. The saddest words of a dying man we know are those of poor Oliver Goldsmith, who when his physician said to him that his pulse was more disordered than his physical condition seemed to account for, and asked if his mind was at ease, replied, "No, it is not!" But the doctor and the clergyman have each their definite and distinct sphere, and the intrusion of the one into the other's domain can only lead to harmful consequences.

THE FIGHT AGAINST TUBERCULOSIS IN AMERICA.

THE International Tuberculosis Exhibition, which has been open to the public at the American Museum of Natural History since November 30th, was closed on January 17th. It was visited by 753,301 persons. The exhibition is to be transported to Philadelphia, where it will be under the direction of the Department of Public Health. An attempt is to be made to strike at the root of the enemy by starting a crusade in schools. Dr. James A. McFaul, Roman Catholic Bishop of Trenton, has expressed his gratification that the fight against tuberculosis had at last become concrete, referring particularly to the fact that Archbishop Ryan, of Philadelphia, had recently given instructions that the educational crusade against the white plague should be carried on in all the elementary schools, as well as all the higher institutions of learning, in his diocese. "The result of the movement thus "begun," said Bishop McFaul, "will be to enlist the "services of 16,000 clergymen in 13,000 parishes in the "United States, and the education of 1,250,000 "Catholic school children in this respect. The "general effect will be that 17,000,000 Catholics in "the United States will be enabled to lend their help "in preventing the spread of the terrible scourge of "consumption." The Massachusetts educational authorities, acting under a law of the Legislature of 1908, are, according to the *School World*, establishing courses of instruction on tuberculosis in all the schools of the State. In addition to these public movements, many of the private organizations throughout the country have established, and are establishing, open-air schools for consumptive children, it being estimated that about 2 per cent. of the pupils in the larger city schools have tuberculosis, The first public school for consumptive and pre-consumptive children to be established in the United States was opened in Providence, Rhode Island, in January, 1908. The work is done entirely in the open, and the benefits of the fresh-air treatment are combined with the teaching and training of the public schools. Many similar schools have been opened. In addition to these specially-conducted schools, several of the States require that the important facts about tuberculosis shall be taught in the lower grades of the public schools. It is expected that within five years the majority of children in the United States will be taught concerning the evils and dangers of tuberculosis before they leave the lower grades of the public schools. Nor is it only in schools that the campaign is being carried on. The gramophone is being enlisted in the cause. "Don't spit on the floor of your home," is the greeting which Governor Hughes, of New York, received a short time ago as he stepped into the main building of one of the county fairs at which he was to speak. This direction came from the mouth of a large gramophone which was lecturing daily for the Committee of the Prevention of Tuberculosis of the State Charities Aid Association in connexion with one of the exhibits which is being shown at the county fairs throughout the State as part of the effort of this Association to teach the people the cause of tuberculosis and the means of combating it. Other specimens of gramophonic oratory are the following: "To "nail your bedroom window shut is to drive a nail in "your coffin"; "Work in the fresh air, sleep in the "fresh air, live only in the fresh air."

DECLINING SUPPORT FOR ANTIVACCINATION.

THE National Antivaccination League has fallen on evil days. A circular recently issued by the executive council of the League announces the existence of a great lack of support on the part of the general public. "Owing to various causes over which the council had "no control," it is said, "the income of this League "showed a considerable diminution in 1908 as compared "with previous years, and had it not been for two "legacies received during the year there would have "been a large deficit." Then follows the oft-repeated appeal for funds. Finding it impossible to interest the public sufficiently to induce them to provide the sinews of war for the campaign against vaccination, an attempt is about to be made to tack on a few more "objects." At the annual meeting of the League, to be held on February 24th, a paper is announced on "Should the "objects of the League be extended?" by Mr. J. P. Swan, who appears to be one of the guiding spirits. As Mr. Swan is actively engaged in a general attack on "Orthodox Medicine," and an attempt to establish the vendors of herbs on an equal plane with registered practitioners, it is not difficult to foresee the nature of the proposals which he is likely to bring forward. It will be interesting to see how the League emerges from the troubles with which it is now beset, and it is not unlikely that the extended objects will act as millstones to drag the League deeper into the Slough of Despond into which it has fallen. Since the last annual meeting of the League there have been significant changes among the officers. The services of Mr. Bonner, the paid lecturer and agitator, have been discontinued, and his name has disappeared from the list of officers announced in the *Vaccination Inquirer*. Lukewarm reception and meagre attendance at the meetings organized, together with a depleted exchequer, are possible explanations. The standard of absurd fallacy published in this official organ has risen to a still higher level under the changes in the staff arrangements which have recently been found necessary. In the February issue readers are informed that: "The "object of the Vaccination Acts is comparable to the "compulsory dosing of all infants with alcoholic "drinks with a view of preventing them becoming "drunkards in after-years. If all our temperance "friends would only realize this our ranks would soon "be largely increased." This is very amusing, but, at the same time, it is distinctly an insult to the intelligence of the League's temperance friends.

KNOWLEDGE AND HEALTH.

DR. A. J. COLLIS'S presidential address to the Newcastle Clinical Society was an earnest and eloquent appeal for the further diffusion of knowledge among the people as a means of improving the public health. Dr. Collis touched on practically every source of preventable disease, and showed clearly in each case the direct causal connexion between the public ignorance and the death-rate. Of course there is nothing new in this, so far. "Everybody knows" that a great proportion of the deaths that take place from the infectious and contagious diseases, and the no less important class of diseases due to unsuitable food and insanitary dwellings, are preventable. Everybody knows it, but all this unco-ordinated knowledge is of little avail as yet. As Dr. Collis points out, the consumptive who is allowed to expectorate freely in one district may find himself fined 40s. when he steps across the boundary into another. Three years ago a Royal Commission was appointed to inquire into disease occurring among grouse, but no public money has ever been spent on investigating measles and whooping-cough, two preventable diseases, each of which kills an average of 14,000 children annually in the United Kingdom alone. Dr. Collis is not content with merely rehearsing the facts, he suggests the formation in each county of a health association to deal with preventable diseases on the lines of the county associations which now control the Territorial Force. A county health association, he suggests, should consist of all the medical officers of health, medical inspectors of school children, certifying factory surgeons, and public vaccinators in the county, and he would make the association responsible to a central body in London with a Minister of Public Health. He would make each association responsible for its own area, and in this way believes that public health administration throughout the country would be co-ordinated, while the education of the public in public health matters would be supervised by the association, which would institute lectures adapted to the special needs of the locality, or to the circumstances of any epidemic which happened to be prevalent. Those who attended all the lectures and passed a simple examination would receive certificates, and employers would be encouraged to give preference to young persons who had obtained the certificate. Each association also should have a staff of women health visitors. Further, he suggested that each association should have its own public health laboratory for bacteriological and clinical examinations, and the staff of the laboratory should give addresses at medical societies on recent advances in public health. The scheme is ambitious, but, as Dr. Collis remarks, "The country is already invaded, and we are suffering "from this cause an annual loss of at least 100,000 "lives and a large number of permanently disabled— "a loss far greater than the wastages of war have ever "produced."

TIN IN CANNED FOODS.

AT the close of the South African war large quantities of canned foods were thrown upon the markets and were reimported into this country. On examination of these foods at the various ports of arrival, it was found that several of the consignments had become unsound owing to the development of gas in the interior of the cans, while others were rejected owing to the unsightly character of the contents. Beef essences had become turbid from the presence of dissolved tin. Dr. Schryver states[1] that all canned foods become more or less contaminated with tin as the result of the contact of the food with the tin plate of the can, and that meat extracts and essences take up more tin than most other meat foods—a circumstance to be explained by the acidity of the meat extractives. Canned fruits and lobsters take up considerable quantities of tin, the interesting point being that the tin penetrates the solid foods, so that they contain more of the metal than the surrounding liquid. The quantity of tin taken up increases with the age of the foodstuffs, although with acid foods solution takes place at a greater rate during the first few months. Not only may tin be thus dissolved and absorbed, but lead may also be derived from the solder. Messrs. Ungar and Bodländer found that when minute doses of tin are introduced into animals by subcutaneous injection for a considerable period nutrition becomes affected and paralysis develops. The presence of tin salts in large quantities in food causes irritation of the bowels, and individual susceptibility plays an important part in the intoxication. Although it is difficult to say how much tin is required to cause symptoms, Dr. Schryver thinks that

[1] Local Government Board (Medical Department) Reports of Inspectors of Foods. Dr. G. S. Buchanan and Dr. S. B. Schryver. London: Messrs. Wyman and Sons, Fetter Lane, E.C. (4d.)

much larger quantities of tin would have to be taken than the amounts usually met with in canned foods. Canned foods containing 2 grains of tin to the lb. would probably cause irritation of the bowels, and all such foods, if over two years of age, should be regarded with suspicion. Tins that have become blown should be destroyed. Each can ought to bear the date and the name and address of the maker. The toxicology of tin poisoning is dealt with in a separate chapter, and the calorimetric and gravimetric tests are described. Leach found that after three months very little more tin was dissolved, but in his experiments solid foods to absorb the tin were not present. In Ungar and Bodländer's experiments a tin of asparagus was found to contain 1.88 grains of tin per lb. Weber found in peaches 2.26 and in blackberries 4.20 grains of tin per lb., while in preserved herrings Gunther found 7.2 grains per lb. In some of the canned foods brought from South Africa Schryver found only ½ grain of tin per lb. at the end of six years, but a can of tripe contained 2 grains per lb. and canned lobsters 2.39. Illustrative cases of tin poisoning in members of families who had partaken of such foods show that the chief symptoms were colic, sickness, and diarrhoea, but in every instance the amount of tin present in the food ranged from 1.8 to 13 grains or more per lb. Experience shows that canned foods, such as fruits, when consumed within a few months of canning, although often containing ½ grain of tin per lb., do not in ordinary circumstances occasion gastro-intestinal irritation in the amount usually taken at a single meal, but the ingestion of older foodstuffs containing larger quantities of tin is not without risk. It is not simply a question of the immediate development of symptoms, for, as in the case of chronic plumbism, the possible storing up of the metal in the tissues has to be borne in mind. In the main, experiments show that there is not much probability of serious risk of chronic poisoning by the absorption of non-irritant compounds of tin as a result of a diet which consists largely of canned foods continued over considerable periods of time.

"ANTIVIVISECTION AND THE POOR."

IN the JOURNAL of February 13th, we quoted a passage from Macaulay's speech in the debate which preceded the passing of the Anatomy Act in 1832, in which, if we may use a Gladstonian phrase, he "smashed, "shattered, and pulverized" an objection made by the "Member for Preston" to the effect that the measure was one for the benefit of the rich. We said that we did not know who was the Member for Preston of that day. We have to thank Dr. A. Maude, of Westerham, for supplying the information. It was Henry Hunt, well described by Dr. Maude as "a prototype of "many Radical politicians of to-day who are fond of "expressing very decided opinions on scientific ques-"tions of which they have little knowledge." Hunt was at one time a farmer in Wiltshire; then he joined the Marlborough troop of yeomanry, and was fined £180 and imprisoned for six weeks for challenging his colonel to a duel. He took to politics, and, after a second imprisonment for assaulting a gamekeeper, he began farming again in Sussex. In this enterprise he was unsuccessful. His true sphere of activity was that of a turbulent politician, and he was again imprisoned after the so-called "Peterloo Massacre" in 1819. In 1830 he was returned to Parliament as Member for Preston. In 1833 he lost his seat, and became a blacking manufacturer. He died in 1838. Romilly calls Hunt "a most unpricipled demagogue," but the author of his life in the *Dictionary of National Biography*, says his own memoirs are the worst evidence against him. To our mind, Hunt's greatest achievement is that, by his opposition to scientific progress, he succeeded in getting himself immortalized by Macaulay, in whose speech he is enshrined like a fly in amber.

THE MEDICAL INSPECTION OF SCHOOL CHILDREN.

THE question of the treatment of school children found to be suffering from disease requiring medical treatment is now before the British Medical Association. A number of Divisions have recorded their opinion, but the question is still under consideration. The county councils are trying to settle details as to the payment of inspectors and the provision of proper treatment. We do not propose to touch on the matter here further than to utter a word of warning to educational authorities as to the exercise of a reasonable amount of discretion in regard to the use they make of the reports of their medical officers. This may seem elementary; but that the warning is needed is shown by a document which has just been placed in our hands. It might be expected that the London County Council, which claims such extensive rights over the population subject to its sway, would set an example to less important bodies. The kind of example it sets may, perhaps, be gathered from a letter addressed to a parent not long ago by an education official. It runs: "I have to "inform you that the Council's Medical Officer "(Education) has examined your daughter . . . and "has submitted a report, the following of which "(*sic*) is an extract: 'On examination she was "'found to have very foul discharge of both "'ears; on the right side the whole internal "'wall of the tympanum is granulating, and these "'granulations extend into the attic and probably "'into the antrum. A radical mastoid operation is "'urgently needed. The left ear has had a radical "'mastoid operation done, but owing to the fact "'that the bony projections have been badly rounded "'off, it will never heal; it is granulating and "'discharging freely and requires reopening. It is "'proposed to get the child admitted to the —— Hos-"'pital in —— if the parents' consent can be "'obtained.'" We are not responsible for the English of this extract. We would ask, however, What is likely to be the effect of such a report on an ignorant parent's mind? The reflection which it contains on the handiwork of the surgeon by whom "the left "ear has had a radical mastoid operation done," is the point which we think will strike our readers most forcibly. If this kind of report is to be sent about to parents, the results are likely to be unpleasant to all concerned. The children's parents will be alarmed by the technical jargon, which they will naturally interpret as meaning something dreadful; the practitioners who have treated the child in the first instance will feel justly aggrieved by the frank criticism to which their work is subjected by a specialist; while it is conceivable that the latter may be liable to an action for libel. At any rate, such a procedure is scarcely calculated to lead to the promotion of a brotherly feeling between practitioners and specialists, or, as in the present instance, between one specialist and another. Every necessary information for the guidance of the parent could easily have been given without quoting the opinion of one operator on the work of another.

THE INTERNATIONAL OPIUM COMMISSION.

THE International Opium Commission has been continuing its sittings at Shanghai, and has received reports from all the countries represented except Canada, India, and Russia. A memorandum submitted by

China at the meeting on February 8th has been criticized on the ground of hasty preparation. It contained an historical note showing that opium mixed with tobacco was smoked in China in the middle of the seventeenth century, that there had been a decline in the importation of foreign opium from 4,910 tons in 1888 to 3,220 tons in 1906, but that this decline was due to displacement by the native drug, the total production of which in 1906 was estimated at 34,800 tons. The memorandum asserted that the production of native opium had fallen in 1908 to 21,860 tons, but it is added that the figures given are the result of sifting scraps of information received here and there, and are, therefore, only approximate. In the inland provinces the taxation is irregular, and official returns practically unknown. The memorandum estimates that in China, with a population of 400,000,000, of whom 50,000,000 are adult males, the total number of opium smokers is about 13,500,000. The memorandum admits that the clandestine importation of morphine, chiefly from Japan, is increasing, and that such clandestine importation does occur would appear to be proved by the fact that whereas, according to the Customs returns, only 96 oz. of morphine were imported into all China during 1907, there are single shops known to have as much as 1,000 oz. in stock. At a subsequent meeting the memorandum was criticized by Sir Alexander Hosie, one of the British delegates, who said that it showed only a small part of the facts; he pointed out that the revenue collected from the native opium in 1908 in the I-chang Collectorate alone was £695,345, a sum larger than the total revenue from the whole of the foreign opium imported into China during that year. It had been asserted that the area under poppy cultivation had been reduced, but as the acreage was unknown the statement was valueless, nor could he accept the statement that poppy production had been entirely suppressed in the Mukden province of Manchuria, inasmuch as he had seen the crop growing there last summer. Sir Alexander Hosie also asked for information as to the number of smokers registered under the regulations in force in China, but added: "Such information is immaterial to, and should not be allowed to obscure, the main issue—namely, that opium in China is a great evil, and the removal of the temptation the only cure." In conclusion, he said that, in spite of the absence of any well-organized and uniform scheme for accomplishing the task which China has set before her, there could be no doubt that fair progress has been made in several provinces. Much still remained to be done, but the Chinese Government, whose sincerity was beyond question, had the sympathy of the British delegation and of the Commission in its efforts to eradicate the opium evil from the Empire.

THE HUNTERIAN FESTIVAL.

The Hunterian Oration before the Royal College of Surgeons of England on Monday last was attended by the Prince and Princess of Wales. Their Royal Highnesses, who were attended by Lady Mary Forbes-Trefusis, Lieutenant-Colonel Sir Arthur Bigge, and Captain B. Godfrey-Faussett, R.N., arrived at the College at 4 p.m., and were received by the President, Mr. Henry Morris, by the Vice-Presidents, Sir W. Watson Cheyne and Mr. A. Pearce Gould, and by the Secretary, Mr. S. Forrest Cowell. The party were then conducted to the secretary's office, where the members of the Council of the College were assembled, together with Lord Rosebery, who is an Honorary Fellow. The President called upon the Secretary to read the minute of the Council's proceedings electing His Royal Highness the Prince of Wales an Honorary Fellow. The minute was as follows: "At a meeting of the Council of the Royal College of "Surgeons of England, on February 11th, 1909, the "President reported that His Royal Highness the "Prince of Wales had consented to become an "Honorary Fellow of the College. The votes of the "Council were thereupon taken in accordance with "the requirements of the Charter of 1899, and the "President declared His Royal Highness George "Frederick Ernest Albert, Prince of Wales, to be duly "and unanimously elected an Honorary Fellow of the "College." Mr. Morris then handed the diploma of Fellowship to the Prince of Wales, and, after the roll had been duly signed, the Prince was invested with the robe of Fellowship, and the royal party were then conducted by the President and the Vice-Presidents through the college corridor and common room to the theatre, where they received a respectful welcome from the audience assembled to hear the Hunterian Oration delivered by Mr. Morris. The chair was taken by Sir W. Watson Cheyne. On the conclusion of the oration the Prince and Princess of Wales were escorted to the reception room, where tea was served, after which the royal party left the college. Among the specially invited guests present were Adeline Duchess of Bedford, Lady Mary Howard, the Marquis of Bath, Sir James and Lady Reid, Sir R. Douglas Powell, Sir Frederick Treves, and Sir Thomas Smith. In the evening a dinner was held, the President being in the chair. Among the guests were Lord Aldenham, Lord Cheylesmore, the Master of the Rolls, the President of the Royal Society of Medicine, the Astronomer Royal, the Treasurer of the Inner Temple, the City Remembrancer, the Master of the Apothecaries' Company, the President of the Royal College of Veterinary Surgeons, the President of Sion College, Sir Clifford Allbutt, K.C.B.; the Director-General of the Royal Navy Medical Service, the Director-General of the Army Medical Services, and Colonel Mark Lockwood, M.P. After the usual loyal toasts, which were gracefully proposed by the President, the memory of John Hunter was drunk in silence. The toast of "The Visitors" was proposed by Sir William Watson Cheyne, and responded to by the Master of the Rolls and Colonel Lockwood. Sir J. Crichton-Browne proposed "The President and Orator," and Mr. Henry Morris, in reply, said that although he had that day delivered the sixty-fifth oration to the memory of Hunter, he did not wish any one whose duty it might be to follow him to imagine that these sixty-five lectures had in any way exhausted the subject. He referred to the work which they were able to do to-day as compared with what was possible before Lord Lister's great discovery, and said that as a profession they hoped to go forward to the achievement of still greater things in the cause of humanity. The College was spending thousands of pounds yearly in procuring volumes which enriched the library, and in adding to and improving that marvellous museum of which the nucleus was formed by John Hunter.

MILK AND NOISE.

There would appear at first sight to be little connexion between milk and noise, for what more innocent-looking and suavely quiet and dreamy than the lacteal fluid extracted from placid cows browsing in flowery meads? Yet, if we follow its peregrinations before it reaches the consumer thereof, we shall find that milk leads to an amount of noise that jars the nerves and depresses the vitality of the town-dweller to a quite unnecessary extent. Missing some of the links in the chain of events, we may begin with the nocturnal or very early

morning rattling of the large distributing milk-vans laden with churns, frequently driven at great speed, the roads being clear at that time. Later, but still early in the morning, commences the house-to-house delivery of milk, either by noisy horsed carts with untyred wheels or rattling hand-carts. As if this were not bad enough, the people in charge of these vehicles make a point, apparently, of creating as much metallic noise as possible by pitching the milk-cans about and banging the lids, as if to herald rosy Aurora with the sound of timbrels. In addition, the delivery of milk does not seem possible unless accompanied by strange jodellings. Both the sound and the sick suffer from these noises of the milk trade, and complaints to the large distributing companies on this head do not lead to an abatement of the nuisance. The only solution of the difficulty, and one that has been pointed out to some of the managers of the larger concerns, is the abolition of the dirty—not to say filthy—milk can, clean, sealed glass vessels being substituted, the employment of vehicles with rubber tyres, and the stopping of the unnecessary street cries.

MEDICINE IN THE UNIVERSITY OF LONDON.

WE hear that a memorandum is in course of circulation to the deans of the medical schools in London and other members of the Medical Faculty of the university, outlining a scheme for the formation of a Faculty Board, which would act as the executive committee of the Faculty. We have already ventured to express the opinion that the affairs of the university cannot be set in order save as the result of an inquiry by a Royal Commission, ending in the grant of a new charter. If, however, in the meanwhile one particular defect in the present constitution of the university, which is paralysing the Medical Faculty, can be put right by a vote of the Faculty itself, as seems to be the case, it can require no argument to convince teachers in the medical schools of the advisability of giving the most careful consideration to the proposal.

THE APPLICATION FOR A CHARTER.

THE *London Gazette* for February 16th contains a formal notice, dated from the Privy Council Office, February 15th, that a petition of James Alexander Macdonald and other members of the British Medical Association, praying for the grant of a Charter of Incorporation, has been presented to His Majesty in Council; and His Majesty having referred the said petition to a Committee of the Lords of the Council, notice is further given that all petitions for or against such grant should be sent to the Privy Council Office on or before the 3rd day of April next.

IN connexion with the announcement elsewhere that His Royal Highness the Prince of Wales was elected an Honorary Fellow of the Royal College of Surgeons of England on the day of the Hunterian Festival, February 15th, it may be of interest to recall that the King had the Honorary Fellowship conferred upon him on June 14th, 1900, when His Majesty was still Prince of Wales. The Earl of Rosebery is an Honorary Fellow of the college, having been elected on the same day as the late Marquess of Salisbury, July 12th, 1900. King Edward the Seventh is also an Honorary Fellow of the Royal College of Physicians of London. It may be added that His Majesty is Patron of the British Medical Association, of which the Prince of Wales is an Honorary Member. As showing the special interest which His Royal Highness takes in medicine, it may be mentioned that he was elected an Honorary Fellow of the Royal Society of Medicine some time ago.

Medical Notes in Parliament.

[FROM OUR LOBBY CORRESPONDENT.]

The King's Speech will probably be disappointing to those who are interested in social legislation, and in particular to those who looked forward, perhaps not with any very sanguine anticipations, to a comprehensive bill dealing with public health administration and the public health service. It would appear that the session is to be mainly devoted to finance, so that, in the words of the Speech, "less time than usual will be available for the consideration of other legislative measures." Among the measures thus relegated to a secondary place, the bills dealing with Irish land and with housing and town planning, which are remainders from last session. A bill for the constitution of trade boards in industries in which sweating prevails is promised, and also a bill to remove certain inequalities of treatment which have been found to arise under the Old Age Pensions Act of last year. Last on the list are bills to amend the law in regard to inebriates, the outcome of the report of the Departmental Committee on the operation of the law relating to inebriates and their detention in reformatories and retreats.* A bill dealing with the supply of milk, and another regulating the hours of work in shops, are also promised. The report of the Royal Commission on the Poor Laws receives the unusual honour of being mentioned in the King's Speech, and it is stated that the recommendations of the Commission are engaging the careful attention of the Government. This phraseology appears to indicate that the Government do not intend this Session to introduce legislation to deal with the subjects investigated by the Commission. The Milk Bill, it is understood, will be a measure for unifying legislation by applying to the whole country the provisions of various milk clauses which have been from time to time enacted in private bills.

The Housing and Town Planning Bill, introduced by Mr. Burns on Wednesday, was read a first time. The bill, which is on the lines of that introduced last year, proposes to amend the law relating to the housing of the working classes, and to provide for town planning schemes, provision with respect to the appointment and duties of county medical officers of health, and the establishment of public health and housing committees of county councils. The bill, which is supported by the Attorney-General, the Solicitor-General for Scotland, and Mr. Masterman, will be read a second time on Monday.

Old Age Pensions.—In answer to a question from Mr. Fell, the Chancellor of the Exchequer stated that the number of claims for pensions granted up to January 31st was 613,962, and that the applications still under consideration on January 31st, exclusive of those which were the subject of appeals, were 65,768. The number of claims made up to December 31st last had been 741,306.

*SUPPLEMENT to the BRITISH MEDICAL JOURNAL, January 16th, 1909, p. 25.

AN International Exhibition of Hygiene will be held at Turin during September, October, and November.

A BILL has been introduced into the Pennsylvania Legislature offering a prize of £10,000 for the discovery of a cure for tuberculosis that shall be as effective as the antitoxin of diphtheria.

THE Second International Conference on Leprosy will be held this year at Bergen from August 16th to the 19th. The preliminary programme includes the following subjects: The geographical distribution of leprosy; the forms and diagnosis of the disease; its causes and manner of propagation; its pathological anatomy; and its treatment. The conference will be held under the patronage of the Norwegian Government and King Haakon. The President will be Dr. G. Armauer Hansen, discoverer of the *Bacillus leprae*. The Vice-President is Professor C. Boeck, of the University of Christiania, another recognized authority on leprosy. The Secretary-General is Dr. H. P. Lie of Bergen, to whom all communications relative to the congress should be addressed.

England and Wales.

[From our Special Correspondents.]

MANCHESTER AND DISTRICT.

Friendly Societies and the Medical Profession.

The feeling in Manchester medical circles with regard to the recent conference as to friendly societies is one of disappointment, and the idea is widespread that a much stronger stand should be taken than hitherto. Up to now medical men have only appealed with a sort of deferential humility for better terms from the friendly societies. It is now seen quite plainly that that is useless, and strong measures are demanded. In one large club in Manchester the club doctors smart under the necessity of treating as club patients scores of men far better off than themselves. Men earning even £1,000 a year are not ashamed to take advantage for themselves of this wealthy penny-a-week club, while they can afford to pay guineas to consultants for attendance on their wives and families. So far from being rare, this is quite a common thing in Manchester. Moreover, since the Workmen's Compensation Act came into force, club patients for the merest trifle of an accident call on their club doctor with an eye to some possible compensation. The amount of work done in some clubs has almost doubled from this cause alone, though the fee remains the same as was agreed on some years ago. The friendly societies complained at the conference about the alleged carelessness of club doctors in the giving of certificates of unfitness for work. If they only knew the proportion of certificates asked for, compared with those actually given, they might be surprised by the amount of claims that they would have to meet if the club doctors were less strict. It seems, too, to be quite forgotten that any club doctor who is too strict in withholding certificates may expect very soon to be told that his services are no longer required. For, as things are arranged, the club doctor is not engaged by, nor dismissed by, the central organizations, but by a few local members who attend the local club meetings, the very men whose claims for sick pay the doctor has to scrutinize, and it must demand no small amount of firmness for a servant in such a position to tell one of his masters that he is either malingering or even exaggerating his symptoms. In fact, it is felt in Manchester that the whole club system, started originally with the best intentions, needs radical reform in every direction. It is fast coming to this, that the best men will refuse to take clubs—they will give their support rather to such societies as the Hearts of Oak, that simply pay a fee for entrance examinations but do not provide medical attendance. It is freely prophesied that the time will come when the only clubs for medical attendance will be those conducted by medical men themselves in the form of public medical services. The fact is that with the British Medical Association in its present fully-organized state, and the profession with a second string to its bow in the shape of public medical services, it is felt to be high time to cease supplications, and to make demands from the friendly societies, and it is quite certain that the genuine working men will not suffer from such action in the long run.

The Salford Union Infirmary.

The vagaries of the Salford Board of Guardians would be somewhat comical if they were not rather serious. Their latest freak is an attack on the medical staff of Hope Hospital, because, purely in the interests of the patients, the medical men have agreed to prohibit certain concerts which have been held regularly in the hospital. The senior resident medical officer states that the concerts had not been conducted in the best interests of the patients. The patients attending had not got back to their wards till 9.30 p.m. and their return to the wards had disturbed those actually ill in bed. Children have been present who ought to have been asleep long before that hour. Patients suffering from consumption have attended who, both for their own sakes and the sake of those with whom they mingled, would have been better in bed, while the day nurses who had to accompany their patients were deprived of needed rest. The concerts have frequently been held twice a week. This state of affairs has gradually supervened on occasional concerts, which, properly conducted, did no harm, and the medical officers thought it was high time to stop it. As is not unusual when anyone disagrees with certain of the Salford Guardians, the most unworthy motives have been attributed to the doctors for their action in the matter. Two guardians said that a merry evening and the "recreative quality of music" would do the patients more good than all the doctors' medicine in Salford. Another guardian said the doctors were not honest in their advice, and, again, that the doctors had not the interests of the patients at heart. It is a good thing for the poor patients that they are not left to the sentimental mercies of certain of the guardians, and if the medical men were not strong in their convictions and fearless in carrying them out, the action of some of the guardians would not tend to getting the best advice from their medical officers.

The Progress of Tropical Medicine.

At a meeting of the Manchester Statistical Society last week, at which Dr. Niven took the chair, Sir Rubert Boyce, Professor of Pathology in the Liverpool University, gave an address on the progress of tropical medicine, in the course of which he said that the remarkable developments in tropical medicine had unquestionably been built upon the foundation of bacteriology firmly laid by Pasteur, and to the same school of thought belonged the further developments in the field of animal parasitology. Just as Pasteur had given us an insight into the means of prevention of infectious diseases, so tropical medicine had shown us how to combat vastly more devastating classes of disease, such as malaria, yellow fever, Malta fever, sleeping sickness, and tropical anaemia. When it had been shown that the *Anopheles* mosquito was the sole carrier of malaria, regulations for its destruction were soon promulgated. First in India and then in Sierra Leone, Ross had organized mosquito brigades to do away with the breeding places of the *Anopheles*, to drain the land, oil the pools, and deal with every patch of water. Rivers, lakes, and large collections of water were for the most part free from the larvae, which were found in small pools by the roadside, ditches, margins of marshes, and so on. As a result of these measures, the mortality among the West Indian regiments serving on the West Coast of Africa had been reduced 75 per cent., while the Grecian League against malaria had informed the Liverpool School of Tropical Medicine that its efforts had had wonderful effects in the plain of Marathon which used to be a hotbed of the disease. In 1906, 90 per cent. of the cases of sickness there were from malaria, while in 1907 the percentage had fallen to 47. At Ismailia, a town of 8,000 inhabitants, there were 1,550 cases of malaria in 1902. Antimalarial operations were then undertaken, and the figures since then have been, for 1903, 214 cases; 1904, 90 cases; and 1905, only 37 cases. Similar results had obtained with yellow fever. In New Orleans an epidemic of yellow fever in 1898 produced 13,817 cases, with 3,984 deaths, while in 1905 the total was 3,384 cases, with 443 deaths. Similar brilliant results had been obtained in Rio de Janeiro, Havana, Panama, and other hotbeds of yellow fever. The facts with regard to Malta fever and ankylostomiasis were cited as showing the value of prophylactic measures, and Sir R. Boyce concluded by expressing the opinion that there was little doubt that in time the tsetse fly would be conquered, and sleeping sickness no longer be a terror throughout wide districts of Africa.

Professor Delépine, in proposing a vote of thanks to Sir R. Boyce, said that the overcrowding of our large towns was perhaps as difficult a problem as that of the jungle, and he wished that the same energy were devoted to combating disease in our midst as had been shown in combating illness in the tropics.

A Medical Play.

There can be little doubt as to the success of Dr. Sackville Martin's new three-act comedy, *Cupid and the Styx*, played last week at the Gaiety Theatre, Manchester. It is something of a satire on hospital life in a provincial town .makes extremely light of love and death and suicide and things that ordinary persons take with a certain amount of seriousness. The three medical men represented are little but flirts, all in love with a nurse whose only recommendation is a pretty face, and all imbued with a very high sense of their own dignity. The whole care of Nurse Price is to

make the best catch for a husband; she gets engaged to both the house-surgeons at once, and is ready to take whichever will marry her first. But, fortunately or unfortunately for them, Sir Peregrine Prendergast, the senior physician of the hospital, falls in love with her at sight, and makes her a totally unexpected offer of marriage in writing without any preliminary love-making. She accepts it at once, and the scene between the two house-surgeons when they hear of it is amusing indeed. The comic situations throughout the whole play are decidedly good. The hospital porter, well played by Mr. L. Mudie, is a doddering elderly man who wants a lighter job and thinks that if he can only get the vacant position of public hangman he would be quite satisfied because the work is light—"only drawing a bolt"—and his past experience as hospital porter—"used to folks as isn't alive"—has well fitted him for such a post. By far the most powerful part is that of Philip Barton, a bank clerk with a mania for writing plays and poems which are all returned by managers and editors. At last in despair he determines that he will get into the papers somehow even if it involves a reputation as a suicide. This character is well drawn, and Barton's frenzied despair at the idea that his wife and in fact everybody else fails to appreciate his artistic temperament were excellently rendered by Mr. M. Sherbrooke. The portrait is that of a self-centred egoist, who never really intends to commit suicide though he talks like Socrates about it. There is an admirable comic scene in which with a show of frantic earnestness he discusses with the two house-surgeons the easiest and most artistic way to commit suicide and the exact dose of laudanum that will just do the deed; he begs the surgeons to certify when the inquest is held that he was perfectly sane; he takes a small dose of laudanum, is brought into the hospital, the stomach pump is applied, he is walked about and slapped with a wet towel, and recovers. Then the senior house-surgeon, to show him up, gives him a hypodermic injection of water only, and tells him that he will be dead in a few minutes. At once Barton accuses the surgeon of brutal murder and goes into a frenzy at the idea that he has to die after all. The play ends somewhat abruptly, with a bit of sham seriousness on Barton's part when he learns the truth, and this ending is not so powerful as the earlier parts; there is a feeling of something more to come which never arrives. Nevertheless, Barton's part places the play on a high level of comedy. The fun is nowhere coarse, and the bits of practical common sense put in a witty form are often clever. Sir Peregrine Prendergast, who has a good deal to say that is rather prosaic, now and then breaks out into something better, as when he says, for instance, "I don't believe in young men marrying and reproducing their species without first proving that their species is worth reproducing." The acting throughout was capital, and Dr. Martin owes much to the way in which the play was cast. There was no question about the good reception, and he had a most enthusiastic call from a good house at the end. There may be some rather grim jesting about death, and possibly there may be some slight resentment felt at the way in which hospital staffs and nurses are represented. Nevertheless, as a comic satire it is excellent, and perhaps that is all that was intended.

WEST YORKSHIRE.

MEDICAL INSPECTION OF SCHOOL CHILDREN IN BRADFORD.

AN attempt was made some time ago to obtain the insertion of a clause in an omnibus bill promoted by the Bradford City Council giving the school medical officer power to act as a certifying surgeon under the Factory Acts in his district. Through the opposition of Dr. Walker, a member of the Bradford City Council, this clause was deleted, but it came up again at a meeting of the council on February 9th. The resolution was to "ask the Home Secretary to take the necessary steps to appoint the school medical officer in each district as the certifying surgeon under the Factory Acts." Dr. Walker again opposed the proposition and carried the majority of the council with him. Dr. Walker stated that when the subject of school clinics was before the council, he had received a promise that only necessitous cases should be medically treated, but unfortunately it had not been kept. Little or no discrimination was exercised in picking out the children for treatment, and in distinguishing between needy children and others. In a letter to the *Yorkshire Daily Observer* of February 13th, Dr. William Mitchell, Honorary Secretary of the Bradford Medico-Chirurgical Society, strongly supports Dr. Walker in his protest "regarding the methods of those responsible for the medical inspection and medical treatment of school children in Bradford. . . . Many children," he says, "are being treated at the expense of the ratepayers whose parents are perfectly able and willing to obtain and to pay for private treatment at home. Patients are being filched from them by the school medical officers and treated gratuitously, often against their wish." Complaints are heard in every direction. There appears to be an enthusiasm in the school medical officers for carrying on their work which, however laudable in itself, ignores the feelings and interests of their professional brothers. This should not be impossible of adjustment; it is hoped the protests of the medical profession, and it may be added of the ratepayers, will be duly noted by the authorities and that the school medical officers will exercise the greatest tact and discretion in carrying out their important duties.

BRISTOL.

ROYAL INFIRMARY.

The annual meeting of the Governors of the Royal Infirmary was held on February 9th, the President, Sir George White, who was in the chair, said that Mr. Hale, V.P.R.I.B.A., had consented to act as arbitrator in the open competition for plans for the new buildings. As a result the plan submitted by Mr. H. Percy Adams had been accepted, and the proposed building, capable of further extension, would be erected in Maudlin Street and Alfred Hill. The canvass for annual subscribers had, he said, been very successful, 233 having been added in the year. For the first time in the history of the institution the subscription list had reached £5,000. The deficit of £3,000 on the previous year's working had not been paid off, but Mr. Samuel White still held his offer of £1,000 good if the balance was subscribed. The income for 1908 including legacies was £16,429. Expenditure, ordinary and extraordinary, was £16,849. The President went into considerable detail with regard to the ordinary expenditure, which showed a slight increase on the previous year. The number of in-patients has been 3,869, and out-patients 49,998, a total of 55,867, against 50,092 in 1907. The cost per in-patient had been £3 3s. 10d., against £2 18s. 5d., due to the fact that the patients had been retained longer, an average of twenty-three days, against nineteen and a half in 1907. The various changes in the staff were touched on, and it was reported that the receipts from private sources had reached £2,377, an increase of about £400. The usual votes concluded the meeting.

HANDEL COSSHAM MEMORIAL HOSPITAL.

It is very much to be regretted that the committee has been obliged to close part of the hospital on account of financial troubles. It will be remembered that the institution was opened on June 1st, 1907, and it was believed that there was sufficient income from the balance invested after the building and equipment had been paid for to take in 52 patients. By the will of the late Mr. Handel Cossham, a sum of about £140,000 was left to found a hospital for Kingswood and district, and of this over £40,000 was spent in building, etc. The Court of Chancery, in whose hands the money was placed, appointed certain trustees to carry out the details, and a splendid hospital, fully equipped, was built. But apparently the income derived from the invested funds has not been sufficient, and, after a year and a half working, the hospital is so far involved in debt that the closing of two wards has been necessary. How soon they will be reopened again is doubtful, as the closing of half the hospital will not result in much saving.

WALES.

CARDIFF INFIRMARY.

AT a meeting of the Board of Management on February 10th, it was resolved on the report of the medical board presented by the Chairman, Dr. Tatham Thompson, to grant Mr. William Sheen permission to give two demonstrations to members of the Royal Army Medical Corps at

the Infirmary. On the recommendation of Dr. Tatham Thompson and Mr. Lynn Thomas, C.B., it was decided to send a limited number of convalescent patients to the Newport nursing home at Bassaleg, when the sanitary arrangements have been extended; the home is beautifully situated, and the drafting of patients into it will make room for some of the many patients awaiting admission to the infirmary. It was reported that during the year 2,245 in-patients and 16,323 out-patients had been treated. The income of the infirmary was £12,102, the expenditure £15,849, and there was an overdraft at the bank of £17,781. As the maintenance of the new wing would involve an annual expenditure of £4,000 an additional annual income of £7,000 was required, and the new wing will not be opened until this has been obtained. From various friends of the infirmary the capital sum of £32,212, yielding an annual income of £1,300, had already been obtained; and the Lady Aberdare League for the collection of shilling subscriptions had met with a great measure of success. Sir W. J. Crossman's scheme for consolidating workpeople's contributions had also borne excellent fruit. The gift of an operating theatre and the casualty wards by the late Mr. Thomas Webb will be commemorated by giving his name to one of the new wards established through the generosity of his nephew.

Usk District Council.

At a meeting of the Usk Urban District Council held on February 9th, Dr. H. G. Jenkins, in his annual report, stated that the general health of the district had been good, there having been no epidemic of any kind. The birth-rate was 14.48 and the death-rate 12.5 per 1,000 of the estimated population. The birth-rate was the lowest on record, and the death-rate was slightly below the average. There was only one death registered under 1 year of age, probably a record for the county.

Ireland.

[From our Special Correspondents.]

Irish in the National University.

The members of the "Students' Union"—and a great many more who were not students—held a meeting in the Mansion House, Dublin, last week, and then paraded the streets with lighted torches, in the hope of convincing the senate of the National University that Irish must be made compulsory in that institution. Banners, mottoes, and all the paraphernalia of such a display were shown, and speeches were made by irresponsible people, who could not be accepted as having any opinion on educational matters worth recording.

At the annual National Convention on February 10th, under the presidency of Mr. John Redmond, M.P., the leaguers seized the opportunity to have a declaration made by the members.

Mr. Boland, M.P., availing himself of the statement by the bishops that the question was one for fair discussion, urged the adoption of a resolution declaring that Irish should be compulsory. The last tragedy of a nation was not the loss of its independence, but the loss of its language. They must have Irish from the very first days that the university opened its doors, or it would be nothing but a poor imitation of English and other foreign types.

The seconder (Rev. M. MacBrennan) said there could be no compromise.

Mr. John Dillon, M.P., declared that he opposed the resolution, and was loudly groaned. Why, he asked, was was there no agitation against a royal university, and no proposal to pull or burn it down? It was royal, said someone, and, therefore, they tolerated it. He declared that throughout this controversy an entirely false issue had been put before the Irish people by many of those who advocated the cause of compulsory Irish. It had been said and repeated that this was a fight between the friends and foes of the Gaelic revival; that those who were opposed to compulsory Irish were fighting to preserve the university as a reserve for English Catholics and pro-English-Irish Catholics. He absolutely repudiated that statement. The real question was one of academic method, and whether compulsory Irish would best serve or would injure the Gaelic revival.

Dr. Douglas Hyde (President of the Gaelic League) said the only difference between him and Mr. Dillon was that Mr. Dillon thought it would be better to wait before Irish was made an essential, and he (Dr. Hyde) was of opinion it was better to do it now that they had the chance and the power. This university had been established with Irish money, and since they had paid the money they had the right to have some say in calling the tune. Without Irish there was a risk of making it a replica of Trinity College. Irish was the poor man's tongue; and, inasmuch as it was the poor man's tongue, it was banned from the rich man's school.

At first the voting was apparently rather even, but when the motion was put a second time it was declared to be carried.

Popular Lectures on Public Health.

At the meeting of the Fermanagh branch of the Irish Medical Association held in Enniskillen on February 6th the following resolution was unanimously passed on the motion of Dr. Leonard Kidd:

> Though large sums of public money are paid to those who instruct the public in agriculture, dairying, fruit culture, the technicalities of various trades, the care of cattle, fowls, bees, etc.; and notwithstanding that the community is taxed for the maintenance of hospitals and sanatoriums for the treatment and cure of disease—much of which is preventable—no public money has hitherto been available for the remuneration of those properly qualified to instruct the people in matters of hygiene and the preservation of their health.
>
> Now that the Legislature has at length recognized public health lectures as a subject of technical education and as one entitled to share in the local grants, it is no longer necessary to regard the services of the profession in lecturing and instructing the people as a matter of philanthropy. And while we consider such philanthropic societies as the Woman's National Health Association are deserving of every sympathy and encouragement, we are of opinion that their existence is the strongest possible proof and condemnation of the neglect and incapacity of the Government, central and local, in matters of sanitation and public health.
>
> We are further of opinion that medical men should not lecture under the auspices of such philanthropic societies, or at all, unless adequate remuneration be provided; and we suggest that these societies should co-operate with the county councils for the selection and remuneration of suitable lecturers.
>
> We desire to point out that if medical men continue to give public health lectures gratuitously philanthropy will be usurping the functions of the Government, and local authorities will never be given the opportunity of exercising their newly acquired powers of paying for lectures and instruction in hygiene and public health.

Scotland.

[From our Special Correspondents.]

The Dick Bequest.

Medical charities in the West of Scotland benefit largely by the munificent bequest of the late Mr. James Dick, manufacturer, Greenhead, Glasgow. By his will he directed his trustees, after payment of certain personal bequests and legacies to local charities amounting to £82,000, to allocate the residue of his estate to such Scottish charitable schemes or institutions as they might select. The residue is estimated to amount to upwards of £600,000. The will was contested in the Law Courts to determine whether the directions were sufficiently explicit to constitute a valid bequest. The Lord Ordinary and the First Division of the Court of Session held that the will was not valid, on the ground of uncertainty, and the House of Lords upheld the decisions of the lower courts. Thereupon the trustees advertised that they were willing to consider applications, and were, we believe, inundated by proposals of all types. After careful consideration of all claims, they announced the first allocation of grants amounting to £311,500. Though the main proportion of the funds has been devoted to West of Scotland schemes and institutions, practically every part of Scotland comes in for a share. The bulk of the present grants has been allotted to medical charities, which receive upwards of £230,000.

Owing to the difficulty of realizing the funds, it is expected that it will be a considerable time before the remainder of the funds is allocated.

Glasgow Royal Infirmary	£80,000
Victoria Infirmary, Glasgow	30,000
Western Infirmary, Glasgow	30,000
Glasgow Maternity and Women's Hospital	10,000
Royal Hospital for Sick Children, Glasgow	10,000
Royal Samaritan Hospital for Women, Glasgow	10,000
Glasgow and District Branch for the Prevention of Consumption	5,000
Broomhill Home for Incurables	3,000
Consumption Sanatoria of Scotland	3,000
Glasgow Cancer Hospital (Free)	3,000
Glasgow Convalescent Home, Lenzie	3,000
Royal Glasgow Asylum for the Blind	3,000
Crookston Home	2,000
Falkirk Infirmary	2,000
Incorporated Glasgow Dental Hospital	2,000
Lady Hozier Convalescent Home, Lanark	2,000
Lanfine Home for Consumptives	2,000
Royal Edinburgh Hospital for Sick Children	2,000
Royal Victoria Hospital for Consumption, Edinburgh	2,000
Greenock Hospital and Infirmary	1,500
Argyle Nursing Association	1,000
Ayr County Hospital	1,000
Chalmers Hospital for Sick and Hurt	1,000
Cottage Nurses' Training Home, Govan	1,000
Dumfries and Galloway Royal Infirmary	1,000
Dundee Royal Infirmary	1,000
Dunoon District Cottage Hospital	1,000
Glasgow Eye Infirmary	1,000
Glasgow Ophthalmic Institution	1,000
Glasgow Women's Private Hospital	1,000
Higginbotham Sick Poor Nursing Association, Glasgow	1,000
Incorporated Edinburgh Dental Hospital	1,000
Kilmarnock Infirmary	1,000
Kilmuir Seaside Home	1,000
Northern Infirmary, Inverness	1,000
Royal Infirmary, Edinburgh	1,000
Royal Infirmary, Edinburgh, Convalescent Home	1,000
West of Scotland Convalescent Seaside Home, Dunoon	1,000
Glasgow Ear, Nose, and Throat Hospital	750
Blairgowrie and Rattray Districts Cottage Hospital	500
Blantyre Cottage Hospital	500
Children's Convalescent Home, Edinburgh	500
Dundee Convalescent Home	500
Edinburgh Hospital and Dispensary for Women and Children	500
Edinburgh Lying-in Institution	500
Eye, Ear, and Throat Infirmary, Edinburgh	500
Gilbert Bain Memorial Hospital, Lerwick	500
Glasgow Cancer and Skin Hospital	500
Glasgow Central Dispensary	500
Glasgow Hospital for Women	500
Glasgow Lock Hospital	500
Johnstone and District Cottage Hospital	500
Kilmarnock Nursing Association	500
Leith Hospital	500
Nairn Town and County Hospital	500
Ochiltree Convalescent Home, Ayrshire	500
Royal Victoria Eye Infirmary, Paisley	500
St. Andrew's Ambulance Association, Glasgow	500
Victoria Hospital, Rothesay	500
Denny and District Cottage Hospital	250
Cottage Home for Convalescent Children, Helensburgh	250

WESTERN INFIRMARY, GLASGOW.

An extraordinary general meeting of the court of contributors held last week approved of the Provisional Order made to the Secretary for Scotland to provide for the discontinuance of the Glasgow Hospital for Skin Diseases as a separate institution and for the application of the property thereof, and for other purposes. The managers were further empowered to meet all cost and charges incident to the Provisional Order out of the funds of the Western Infirmary.

STUDENTS' REPRESENTATIVE COUNCIL.

The annual conference of Delegates from the Students' Representative Councils of the Scottish Universities was held in Aberdeen on January 29th and 30th. Among the motions submitted and discussed was one by the St. Andrews' delegate that the Scottish universities be petitioned with a view to making diseases of children a part of the final examination for the degrees of M.B. and Ch.B. It was argued that the subject ought to have a permanent place in the final examination. After discussion an amendment that the Scottish universities be petitioned to make the classes on diseases of children in the various universities uniform, became the finding of the conference. The delegates also discussed the question of the provision of a separate medical college for women students, holding that the present system of co-education of the sexes in several subjects in the medical curriculum was unsatisfactory and undesirable.

REGISTRATION OF NURSES IN SCOTLAND.

The Scottish medical and nursing professions have been for some time back watching the Registration of Nurses Bill. It was felt that the terms of the bill which passed the third reading in the House of Lords and had been sent down to the Commons, were not suitable to Scotland. The opinion was expressed that in the interests of hospital work and of public and private nursing, steps should be taken to secure for Scotland such treatment as would enable it to obtain the fullest possible benefit from a system of registration. With this object in view a meeting of those interested was held, as reported in these columns on December 19th, at the Royal College of Physicians, Edinburgh. This meeting was attended by, amongst others, the Presidents of the Royal Colleges of Physicians of Edinburgh and Glasgow and the superintendents and matrons of all the principal hospitals in Scotland. At this meeting the terms of the registration bill were carefully and fully discussed. While admitting that registration was desirable, and, indeed, inevitable, it was generally felt that registration on the lines proposed would be hurtful to the interests of Scottish nursing. The meeting considered that the work of training nurses would be much better done if a separate registration authority were constituted in each country. The committee then appointed to draw up a scheme of registration suitable for Scotland has now issued its report, and at a further meeting of the committee in Edinburgh it was approved of without a dissenting voice.

The report states that registration is necessary, but the committee considers it very undesirable that the registration and, as a necessary consequence, the training of Scottish nurses should be controlled by a registration council whose head quarters would be in London. If the recent bill became law the training, education, and status of Scottish nurses would be alien in interests and sympathy to Scottish nursing. Considering the excellence of the training given to nurses in the leading hospitals, the proposal to make the examination by the registration council an essential qualification for registration was unnecessary, and would place an undue burden and expense on candidates, and, further, would tend to create the impression that the main object to be aimed at in training a nurse was to enable her to pass such an examination. A much better plan, in the opinion of the committee, would be to leave the examinations, as far as possible, in the hands of the training schools, the registration council reserving such powers of supervision as would enable the council to ensure an adequate standard of attainment on the part of applicants for registration. It was pointed out that the fee of 5 guineas proposed to be charged for examination and registration was excessive, since the majority of those who would be called on to pay it would probably be in recept of small salaries.

The committee, having formed these conclusions, does not recommend the nursing profession to adopt this bill now before Parliament as applying to Scotland, but advise that a bill which it has drafted should be brought before Parliament exclusively applicable to Scotland. The committee expressed the opinion that the existence of a separate registration council in Scotland would stimulate and promote the training of Scottish nurses in a manner that a registration council sitting in London could not achieve.

The committee also advocates a system of reciprocity, and suggests the insertion in any bill of a clause providing that nurses registered in England or in Ireland should be held as registered in Scotland, and that nurses registered in Scotland should be held as registered in England or in Ireland.

A meeting of those interested in the subject will be held at 3 p.m. on February 27th in the Merchants' Hall, 30, George Square, Glasgow, under the presidency of Lord Inverclyde.

SELKIRK MEDICAL OFFICERSHIP.

Mention was made in these columns of the deadlock which had occurred in connexion with the resignation of Dr. Muir as medical officer of the burgh of Selkirk. The town council offered the position to various medical men, but they all declined. After the last meeting of the council it was understood that Dr. Muir was willing to resume duty at an increased salary. At a subsequent meeting, which was held in private, it was decided that it was impossible to agree to the conditions which Dr. Muir laid down in the event of his resuming office. It was, therefore, determined to advertise for a medical officer. It will be interesting to watch further developments in the case; and it is to be hoped that the members of the medical profession in the neighbourhood will support one another in the endeavour to put the appointment on a proper and satisfactory basis.

ROYAL MEDICAL SOCIETY BANQUET.

The annual dinner of the Royal Medical Society was held in Edinburgh on the evening of February 9th. The Senior President, Dr. W. Kelman Macdonald, presided over a gathering of about a hundred gentlemen. The guest of the evening was Sir Donald Macalister, Principal of Glasgow University. Sir Donald Macalister, in proposing "The Royal Medical Society," said that reverence was due to it as the senior medical society of the United Kingdom. It was still in its vigorous prime, and it had retained not only the mature vivacity of age, but all the portentous gravity of youth. A roll of membership that included among its ordinary members Oliver Goldsmith, Charles Darwin, and Joseph Lister, was glorified for all time. Cambridge and Glasgow shared a portion of the glory those names had shed upon the world, and in the name of both universities he made his acknowledgements. He acknowledged on behalf of a third institution which he represented the hospitality of the society to the members of the General Medical Council, and referred to the position the General Medical Council held with regard to education. The kind of education the State had put under its charge was not education for culture, considered as an end in itself. The Medical Acts had a strictly practical end in view. They bid the Council see to it that a medical man possessed "the knowledge and skill requisite for the efficient practice of medicine, surgery, and midwifery." A university might properly impart to and demand from its medical graduates a higher and wider education than that. It might rightly insist on more "knowledge," but it might not be satisfied with less "skill." Greater proficiency on one side must not be purchased at the cost of less efficiency on the other. The one concerned the reputation of the medical graduate as a man of learning; the other touched the public safety, and it was in the interest of the public safety that the Legislature created the General Medical Council. Modern advances in medical and surgical treatment, in the arts of healing and prevention, put new powers for good into the doctor's hands. But to learn to use them skilfully needed more study in the wards and more practice at the bedside than before. For that more than the second half of the curriculum was required. When the two half-sections were more than the whole would contain, something must give place. Should it be the first half, or the second half, or the whole? There was the practical problem, and he commended it to the Royal Medical Society as a problem worthy of its statesmanship. The one solution that was barred, from the point of view of the public, was that which would crush up or crush out the second half. The public was made up of patients, actual or potential. That was why the public thought it worth while to make legal and educational provision for the production of doctors. After referring to the growth of the Edinburgh Medical School and the efficiency of its clinical teaching, he concluded his remarks by saying that clinical skill could not be crammed, time and a certain detachment of mind were factors in the product. If these were stinted, practical efficiency suffered; and it was by their practical efficiency that doctors, Scottish or non-Scottish, must in the end stand or fall. The General Medical Council would look after the minimum curriculum; that was its function. It was on the superminimal after the bare essentials were provided for, on the higher instruction provided, and on the stricter standards enforced, that the special reputation of a school or university chiefly depends.

COMBATING CONSUMPTION IN EDINBURGH.

Dr. Philip, in an address to the Council of the Edinburgh Charity Organization Society on Concerted Action in the Prevention of Consumption, said that such action was the key to success. In Edinburgh alone about 400 people annually died from consumption. The proportion of tuberculosis in school children was much greater than was commonly supposed. From observations of several groups of school children taken at random in the City of Edinburgh, he found that no fewer than 30 per cent. had tuberculosis. There were in the city a large number of tuberculous nests. The issue was one of considerable magnitude and complexity. The problem was not how to cure a certain number of individuals and restore them to work. The preventive programme must be comprehensive. It was not merely a question of notification or sanatoriums; it must be an organized and co-ordinate programme, such as notification, a tuberculous dispensary, a hospital for advanced cases, a sanatorium for early cases, and a working colony. He believed that there were 4,000 people in Edinburgh who ought to be under surveillance on this account. Dr. Leslie Mackenzie, medical member of the Local Government Board, stated that the Board, so far as that was possible, had given wholehearted support to the views put forward by Dr. Philip, and hoped to continue to do so.

Cape Colony.

NEW REGULATIONS AS TO MIDWIVES AND NURSES.

NEW regulations on the subject of the certification of trained nurses and midwives in Cape Colony have, after a long delay, been gazetted. The chief alterations in regard to midwives are that the registration of certificates from outside the Colony is abolished, and examination will, in all cases, be compulsory. The curriculum of a midwife from outside will, however, if equal to that exacted in the Colony, be accepted. Training in a recognized lying-in institution will be compulsory. This must cover a period of three months, and must include a course of lectures, and the conduct, under the direction of a medical practitioner or registered midwife, of at least fifteen cases. In regard to nurses, training schools must henceforth be recognized by specific resolution of the council, having regard not only to the actual number of patients, but to the class thereof, and to the quality and extent of the instruction. The training schools will be of two classes, the first including those having 400 or more patients per annum, and the second those having fewer than 400, but not fewer than 200. In the first class three years' training will be required, and in the second class four years. If the candidate has been trained partially in an institution of one class and partly in one of the other, a period of eighteen months in the second class shall be regarded as equivalent to one of twelve months in the first. The council will continue to register trained nurses who produce approved outside certificates.

Special Correspondence.

BERLIN.

Visit of the King and Queen to the Kaiserin Friedrich Haus—Medical Inspection and Treatment of School Children.

WHILE in Berlin King Edward and Queen Alexandra visited the fine Institute for Medical Post-Graduate Instruction, dedicated to the memory of the late Empress Frederick, the Kaiserin Friedrich Haus für aerztliches Fortbildungswesen. Their Majesties were specially interested in the various collections and permanent exhibitions, which form so notable a feature of the establishment. Its fine, admirably lighted rooms (the institute dates from 1905) contain a permanent exhibition of objects of medical technical industry. Manfacturers know the advantages of presenting these objects to the institute, and practitioners here find an assemblage of all appliances they may require in every branch of professional work, including, of course, surgery, radio-therapeutics, etc. A special department is devoted to chemo-therapeutics, and the chemical remedies so largely manufactured in Germany; there

are separate rooms for casts, for tropical medicine, for balneology, and ample space is reserved for temporary scientific exhibitions. There is a collection also of medical teaching appliances placed here by the Prussian Government, to whom it belongs, and used for lecture experiments and demonstrations. These lectures, which are free to graduates, are given in a lecture-room for 250 hearers. A library and a reading-room for general use are provided, and other rooms, with about twenty working places each, are devoted to practical courses of study in microscopy, bacteriology, and experimental medicine. There is a studio for scientific photography and a workshop for casts. Close to the latter Professor Lassar's celebrated collection of models has found its place. Professor R. Kutner is at the head of this fine institute. To him fell the honour of conducting the King and Queen through the building, and of delivering a short address, illustrated by photographs on the screen, before Their Majesties.

A public meeting, convened by and presided over by Herr Hentig, late Prime Minister of Coburg-Gotha, was held in the Session Hall of the Prussian Upper House on February 10th by the German Central Committee for the Care of the Young (*Jugendfürsorge*). Its proceedings were devoted exclusively to a discussion of the institution of school doctors, its results after ten years' practical experience, its aims, and its limitations. Dr. A. Lewandowski presented a report of the general inquiry instituted by the committee six months ago, and in an able and exhaustive speech commended its outcome. A list of questions, accompanied by a paper of simple guiding maxims, had been sent to the elementary schools (*Volksschulen*) of all places in Germany of over 5,000 inhabitants —524 schools in all. Replies had been received from 468, almost 90 per cent., and formed the basis of the report. It was a gratifying sign, said Lewandowski, that the school authorities in general seemed fully alive to the importance of proper hygienic arrangements in school buildings and playgrounds, and of such measures as special classes for backward and dull children, individual treatment of shortsighted, deaf, neurasthenic, weak-chested, or slightly crippled children, meals for the underfed, dental supervision and treatment, and other aids to health advocated by German school doctors. It was satisfactory, too, that in general the relations between school authorities and school doctors had been of the smoothest. Much good had been effected by parents' evenings, meetings at which school doctors discussed some point of importance, and questions were asked. The dangers of alcohol had been from the first explained and kept before the minds of both children and parents. Useful advice on the selection of a trade suited to bodily condition and physique had been given, and the spread of epidemics in schools had been prevented. It was, however, useless to deny that school doctors did not, and could not, effect all the good of which their office was capable while the limitations that tied it down remained in force. At present the German school doctor's functions were almost exclusively advisory. He examined the pupils at entrance and at stated intervals, and recommended medical treatment where he considered it advisable. But, for reasons of medical etiquette, he was debarred from carrying out that treatment himself, even though he might know that the child, owing to the negligence of the parents or from other causes, was without any medical care whatever. Nor had he any means of forcing the parents to do their duty. When he had diagnosed, say adenoids or the initial stage of phthisis, when he had stated the case and advised special treatment, the school doctor's function was at an end. This, said Dr. Lewandowski, was an ambiguous state of things; in concert with many of his colleagues he raised his voice against its continuance. No one now doubted that the institution of school doctors was a step in the right direction. In the ten years the system had existed it had effected much good and produced a great store of experience. But if it was to have its full share in raising the physique of the nation and stamping out the diseases that were its scourges it must not remain an isolated measure of stunted scope, but must be extended and centralized, must be worked and moulded by municipal and State authorities into a link of that great chain the forging of which Germany, he hoped, would complete before long—a chain of free medical care for the people, from earliest infancy to manhood and womanhood. The discussion was opened by Geheimrath Freund, of the Prussian Ministry of the Interior. He declared himself in full sympathy with the hopes of the Central Committee, as formulated by Lewandowski. State legislation alone could give the school doctors adequate executive powers. But the financial side—and the question of funds came uppermost in all great schemes—was a matter that concerned the communities more than the State. German communities were freer financially than English, inasmuch as they were entitled to vote funds—without appealing to Parliament—to any purpose they might judge useful to the community at large. Dr. Gottstein, honorary town councillor of Charlottenburg, in a closely argumentative speech, pleaded for enlargement of powers and centralization. The "school doctor" must be henceforth the "school-children's doctor," though this alone would not suffice; for it was an established fact that much of the children's ill-health had its root in unsatisfactory home conditions; and as it was useless to hope for cures while these remained what they were, centralized action was necessary. To be of use the medical care of the people must not be cut up into bits, the one having no official cognizance of the other, but must form a single organic whole.

Correspondence.

BOYS' RACES.

SIR,—Probably those medical practitioners who have the advantage of an extensive practical experience of school boys who regularly run in "school and cross-country races exceeding one mile in distance"—I mean the medical officers to our great public schools—will realize the very unfortunate effect that is almost certain to be the outcome of the laconic letter—we may call it the "certificate"— to Mr. Farmer signed by Sir Lauder Brunton, Sir Thomas Barlow, Dr. Goodhart, Dr. Hale White, and Sir Alfred Fripp. One naturally wonders on what grounds these high medical authorities base their assertion that for boys under the age of 19 the continued strain" is *apt* to cause permanent injury to the heart and other organs." This is indeed a very sweeping generalization; and though it is probable that individual instances of boys who have taken part in long runs have been brought before these gentlemen as patients, I cannot think that they have had opportunities of watching the effects of such runs on the average healthy boy which alone would justify the statement to which these gentlemen subscribe. As with vaccination so with runs, to many nervous parents it is *Post hoc, propter hoc.*

For eight years I was in medical charge of an English public school of about 650 boys, and from the outset was particularly anxious to note any ill-effects from long cross-country runs, for I started on my work as deeply prejudiced against races exceeding one mile in length as any of those distinguished subscribers of the letter. But experience showed that the harm done was a myth, provided, of course, that only the physically sound were allowed to take part in the healthy exercise of "runs."

My experience, at any rate, was diametrically opposed to the statements of Sir Lauder Brunton and his colleagues, and I never once came across a boy who, after I had certified him as fit to run, was any the worse even for the long cup race of about nine miles.

It would be very useful if the question under consideration could be made the subject of discussion at the annual meeting of the Association at Belfast.—I am, etc.,

Clifton, Feb. 14th. P. WATSON WILLIAMS, M.D.Lond.

SIR,—A few weeks ago I was consulted by a senior boy of one of the leading English public schools, who was sent to me by his parents on account of an unusual listlessness which he had shown during the holidays. They further asked my opinion on the advisability of his continuing to take part in the long distance cross-country competition races (five to six miles) in which he took a prominent place. On examination I found a coldness of extremities, slight but distinct cyanosis of the cheeks, and a slightly dilated heart, the physical signs showing unmistakably

that the heart and circulation had been unwisely subjected to some physical strain, and on inquiry I found that the family history showed a very marked tendency to early cardiac degeneration. Needless to say, I vetoed any continuation of the long-distance competition races.

My patient informed me that occasionally after the races he was very much done up, his description of his feelings clearly indicating that his condition on these occasions was not one of healthy exhaustion but more akin to collapse, and yet this apparently escaped the observation of the school authorities. Lest any reader should think that the boy in question was one who welcomed a medical certificate to free him from taking part in a sport which did not interest him, I may add that he not only took a prominent place in the running team to represent his school in competition contests, but he equally excels in every other branch of school athletics. I sincerely trust that Mr. Farmer will be successful in his efforts to attain an urgently-needed reform.—I am, etc.,

Edinburgh, Feb. 14th. CHALMERS WATSON, M.D.

SIR,—I have read with much interest your remarks upon Mr. Herbert Farmer's letter in the BRITISH MEDICAL JOURNAL of February 13th, and having for years participated in both long-distance running and swimming, I feel I can, from a practical point of view, entirely agree with your conclusions that cross-country running does no harm to the average boy, but should not be insisted upon for all boys. One may hold, as a general rule, that if a boy enjoys long-distance running, then it will do him nothing but good; but if it is irksome to him, then he is in all probability physically unfit for it. To my mind, the "sprint," especially the "quarter," is a much more unnatural and severer strain on the circulatory system than the slower long-distance race. If parents would only take the trouble to have their children medically examined occasionally, then any who were unfit for ordinary school sports could have their exercise regulated. I have often seen cases of boys at public schools who were quite unfit to participate in the usual school sports on account of their cardiac condition, but such cases are the exception and not the rule.—I am, etc.,

LESLIE THORNE THORNE, M.D., etc.

London, W., Feb. 13th.

SIR,—I hope you will permit me, as a former winner of the United Hospitals' cross-country race, and one who as a schoolboy was keen on paperchases, to offer a few comments upon this most important question.

No boy who suffers from cardiac disease, or any serious physical disability, should go in for any violent sport such as football, running, jumping, or rowing, but in my opinion the ordinary school paperchases involve a much less serious strain on the heart than any of the faster races from 100 yards to a mile, or a hurdle race, or a short distance steeplechase, and certainly than a boat race.

In an ordinary paperchase, even where there is a competitive element in it, there are so many obstacles, heavy ground to be crossed, and time occupied in looking for the scent, that there is not the same strain upon the heart as in the more violent races to which I have alluded.

Provided, then, that there is proper medical supervision, as there should be for all kinds of boys' sports, and that suitable training is carried out, and the runs adapted to the age of the boys, I am of opinion that there are few more healthy forms of sport for growing boys.

It is possible that the manifesto in question may have been written as a protest against Marathon races, and road races of a similar kind, which are quite another thing, but I think it is due to the profession, and especially to those members of the profession who are medical officers of schools, that some evidence should be brought forward to justify what seems to me a grave attack upon one of our well-recognized forms of school athletics.—I am, etc.,

Leyton, E., Feb. 15th. CHARLES F. HARFORD.

THE DRAFT CHARTER AND THE REFERENDUM.

SIR,—We wish to draw the attention of the members of the Association to the serious effect which the proposed action, headed by the South-Western Branch, in petitioning the Privy Council against the draft Charter will have upon the South African Branches of the Association. In the spirit of combat which has been aroused since the Sheffield meeting there is a possibility of the interests of the members of the Association being forgotten, and it is to be hoped that more reasonable counsels will prevail.

This Branch of the Association in South Africa, Cape of Good Hope, has been looking forward to the granting of the Charter since 1905, mainly for the reason that it might have power to increase its subscription so as to enable it to carry out its duties, which it is unable to do at present on the 4s. per member allowed out of the present subscription of 25s., the deficit being made up out of a balance accumulated previous to 1902, and, further, to undertake the duties of medical benevolence and medical defence. A further want is the power to form a South African Committee composed of members from each South African Branch which shall have full power of—

(*a*) Levying subscriptions on Branches and members to any amount necessary for carrying out its work.
(*b*) Shall control and administer medical benevolence.
(*c*) Shall take up medical defence.
(*d*) Shall be representative of the Branches in matters of medico-politics and of medico-ethics.
(*e*) Shall be the central organizing committee for holding congresses and issuing publications.

The regulations for this committee have been considered by each Branch, and in a few months will be finally settled; but, until the Charter is approved of, work in this connexion cannot be entered upon.

To the Representative Meeting in July, 1906, the Special Representative Meeting in May, 1907, and the Exeter meeting in July, 1907, representatives were sent from this Branch and the views of the Branch stated. The subject of the Charter has been discussed *ad nauseam*, and it appears to us that the raising of the method of taking the referendum at the last moment is only with a view of delaying the passage of the Charter and the scarcely veiled hope that success in this will finally kill it.

"The Association" as at present constituted has expressed, after more than adequate consideration, its approval of the Charter, and any counter petition, if successful, can only result in the subject being sent back by the Privy Council to the Association to settle the difficulty and to re-petition that Council when the members have settled their differences.

As the objection is not to the Charter but to one of its Ordinances, we think that this point could well have been left to be settled constitutionally after the Charter has been granted.

We now come to the reason for writing this letter. The patience of our members is becoming exhausted, and unless the constitution of the Association is quickly altered so as to give the Colonial Branches more autonomy and more power to enlarge their scope, there is the very grave danger of a serious fission occurring in the South African Branches, which will threaten their very existence, and from the ashes of which a Colonial Association will rise. Many of us who have belonged to the British Medical Association for years are most anxious to prevent this, but unless more prudent counsels are adopted we fear this result will occur.

We notice that this agitation springs from those, no matter how highly placed, who have not the intimate acquaintance with the needs of the Association and its members, both home and colonial, as those who have occupied official positions for years.—We are, etc.,

A. JASPER ANDERSON,
President,
H. A. MOFFATT,
Hon. Secretary,
Capetown, Jan. 27th. Cape of Good Hope Branch.

MEDICAL REGISTRATION.

SIR,—Anxiety to many practitioners may be averted, and comfort obtained by many, if you will kindly publish the enclosed correspondence:

To H. E. Allen, Esq., Medical Registrar.

Dear Sir,

I enclose a card addressed to myself, and request your kindness to inform me whether you have received my reply to your letter of the 1st.

Section XIV of the Medical Act is most unjust to medical practitioners, and should be repealed. It is unfair that if, from any cause, registrars do not receive answers to their single applications, they can erase names from the *Register*, and that no acknowledgement of an answer is required from a registrar,

from whom a printed postcard would suffice, costing little and relieving much anxiety.
February 8th, 1909.

Reply, dated February 9th, 1909:

We have 32,000 replies to deal with; it has taken three people five days to open them, and they will not be sorted for two or three weeks at least. Your entry has been marked off as correct; no need to trouble further. We shall not remove any name for not answering until we have sent a second (registered) inquiry.

N. C. KING,
Assistant Secretary.

—I am, etc.,

Malvern, Feb. 11th. STANLEY HAYNES, M.D.

PERNICIOUS ANAEMIA AND PYORRHOEA ALVEOLARIS.

SIR,—I regret that Dr. Byrom Bramwell cannot agree with my statement. I have paid great attention to the oral condition of my cases for some years, and, though no rule is without its exceptions, feel sure that in 99 per cent. the cause of teeth dropping out is pyorrhoea alveolaris.

With regard to the question raised by Dr. Bramwell's friend of the "less obvious symptoms and signs" of this disease, I must say that, not being a dentist myself, I see many cases in which I do not feel justified either in assuming or denying its presence without investigation by a competent dental surgeon.

As regards the various points raised, I have followed Dr. Bramwell's example, and enclose a letter from Mr. J. G. Turner of Wimpole Street, which deals with the subject from a dental point of view.—I am, etc.,

London, W., Feb. 12th. C. WYNN WIRGMAN.

Sir,—The important point seems to be whether Dr. Byrom Bramwell has found pernicious anaemia in a subject definitely free from oral sepsis. The answer to this must be a decided negative. In this case, as Mr. Wynn Wirgman says, the dropping out of the teeth may be taken as clear evidence of the presence of pyorrhoea. Pyorrhoea is by far the commonest cause of "dropping out of teeth," and in the absence of all evidence to the contrary must be accepted as the cause in Dr. Bramwell's case.

As to "atrophia alveolaris praecox," I am inclined to regard it (in common with tabetic alveolar atrophy) as a very unsubstantial thing—always remembering "There are more things in heaven and earth, Horatio, than are dreamt of in your philosophy." A dry form of alveolar caries, infective and analogous clinically to dry caries—say, of the hip joint—is very common and leads slowly to loss of the teeth, apparently without any septic infection and with no formation of pus. In course of time this dry form of pyorrhoea alveolaris generally merges into the purulent, a pocket here and a pocket there gradually showing definite pus discharge.

It is, I believe, this "dry" form of "pyorrhoea" which has given rise to the idea of early senile decay of the alveoli of the jaws, as well as to alveolar atrophy as an accompaniment of tabes, diabetes, etc.

J. G. TURNER.

Wimpole Street, London, W.

APPLICATION OF MENDELIAN RULES TO HUMAN INHERITANCE.

SIR,—What I especially endeavoured to show in my last two letters were two points which Professor Karl Pearson ignores in his letter of February 2nd. However, it is clear from paragraph 4 of his letter that he now understands my method of counting. The two points are:

1. If there had been no children born to the last abnormals (which is quite conceivable) my contention is that, without doubt, Mendelians would have considered Nettleship's chart as conforming to Mendel's rules; for of the 274 individuals descended from abnormals, 134 were abnormal and 144 normal.

If this result is not near enough to that required by theory, then I do not know how it is to be regarded.

2. The second point is that of 98 abnormal parents nearly one-third had normal children only.

Will Professor Pearson kindly furnish *his* explanation of this striking fact? So far, no more likely explanation has occurred to me than the one quoted in italics in the second paragraph of the professor's letter; and he has not by any means shown it to be an erroneous view. Though it may be "new" and offer difficulties, it is not therefore "absurd."

I am, at any rate, not alone in my view that prepotency may change with the mating, for Professors J. Arthur Thomson and Cossar Ewart go further and believe it may change *in the individual*. Thomson, in his *Heredity*, pp. 116 and 117, says:

In large families there is sometimes observable an interesting change in the direction of preponderance in the successive children. With a virile middle-aged father and a much younger mother, the older children may be markedly paternal in the expression of their inheritance, the younger children as markedly of the maternal type. . . . Professor Ewart records the case of a very young pigeon of hooded and frilled breed which was mated with an old one not decorated with hood or frill. The result was that the first young were smooth headed and smooth breasted, but that those of later broods had the specialized characteristics of the mother.

I still maintain, in spite of Professor Pearson's scathing criticism, that *so long as abnormals continued to be produced* in Nettleship's night-blind family, the proportions agreed *closely* with Mendel's rules; and this was not in a small number of individuals, but in a number sufficiently large to warrant one in feeling satisfied that a close approximation to the correct "average" result was somewhat obtained.

If, then, the chart falls strictly into Mendelian lines up to the point which includes *all* the abnormals, there seems to be no escape from the conclusion that some new factor must have come into operation where Mendel's rule begins to be inapplicable; and when we know the real cause of dominance we may know what this new factor is.—I am, etc.,

Wrexham, Feb. 9th. H. DRINKWATER.

PULMONARY TUBERCULOSIS IN CHILDREN.

SIR,—Dr. Mary Williams has supported the views she holds regarding chronic pulmonary tuberculosis in children in an able manner, but her conclusions are based upon somewhat insecure foundations.

To refer first to the death statistics given. Death statistics not based on autopsies are of little value, and the statistics quoted in which the cause of death has been ascertained by *post-mortem* examination draw no distinction between acute and chronic tuberculosis of the lungs. It is scarcely necessary to remark that the vast majority of cases of tuberculosis of the lung occurring in children seen in the *post-mortem* room are either acute or subacute in nature. In the second place, allowing (what I am not prepared to admit) that infection of the lungs in children generally takes place from the intestines, it does not appear to me that such a view supports the contention of Dr. Williams. A caseous bronchial gland, whether infected from the air or from the intestinal canal, may remain quiescent for several years, and when disease of the lung arises from the gland during childhood, the disease is almost invariably acute or subacute in nature. With regard to another heading, when drawing deductions from statistics based upon clinical evidence of chronic tuberculous disease of the lungs in children, it is necessary to know what the observers have considered to be evidence of tuberculosis. Dr. Williams, although she holds a strong view on this subject, seems to be uncertain as to the physical signs of chronic tuberculous disease of the lungs. Again, the symptoms considered by Dr. Williams to be indicative of phthisis are certainly of little value. Speaking broadly, the symptoms mentioned may be said to be those of dyspeptic children, of children the subjects of cyclical albuminuria, or of children physiologically delicate—to use a word of ill-defined meaning, but which must be understood by those who have to deal with children. It is necessary, however, to admit that some of these dyspeptic or delicate children may have tuberculous bronchial or mediastinal glands, but the presence of such glands can very rarely be diagnosed.

Possibly a common ailment in children may sometimes mislead Dr. Williams. This ailment is recurrent fever. The frequency with which a short attack of fever sometimes recurs in children is remarkable, but even in a case in which the fever appears only occasionally, if examination of the child were to take place just after an attack, it is probable that any one holding the views of Dr. Williams would diagnose tuberculosis, especially as some bronchitis more commonly than not accompanies the fever. In this connexion it may be of interest to add that a few years ago I looked up, at their homes, all the cases I could find of children who had been under my care for recurrent attacks of fever associated with bronchitis. In

the majority the attacks grew less as puberty was approached, though in one or two instances chronic bronchitis seemed to be developing. In no case was there any indication that tuberculosis was present.

In conclusion, reference may again be made to the evidence of the *post-mortem* room. Here I believe—and this is a standpoint from which I feel I can speak with some authority—that the evidence is strongly against the frequency of chronic tuberculous disease of the lungs in children. On the contrary, the *post-mortem* room not infrequently shows that cases of chronic disease of the lungs in children, which have been thought during life to be tuberculous, prove to be non-tuberculous.—I am, etc.,

February 12th. THEODORE FISHER.

SIR,—The somewhat sweeping statements made by Dr. Hamilton Williams in her interesting article on Pulmonary Tuberculosis in Children, published in the JOURNAL for February 13th, can hardly be accepted without further consideration. She starts with the assumption that at about 30 per cent. of autopsies tuberculous lesions are found in the lungs. For children certainly this figure is probably sufficiently accurate, for, without ransacking Europe for figures, statistics from the different hospitals for children in London show that about one-third of those dying in them are found on *post-mortem* examination to be tuberculous, and in the vast majority of these the lungs are affected. But Dr. Hamilton Williams further assumes that because pulmonary tuberculosis is so commonly found after death there must be large numbers of children in whom the disease is present during life in a more or less latent form, and that it may remain latent for periods varying from five to twenty years. Now, of this I believe there is no sufficient evidence; on the contrary, all clinical experience shows that the rapidity with which tuberculous disease spreads in the lungs is generally in inverse proportion to the age of the patient, being rapid in early life, comparatively slow in later life. Certainly, in children, when once tuberculous mischief has started in the lungs, it usually spreads very quickly, and in a markedly disseminate fashion, proving fatal before there has been time for any extensive excavation to occur. Severe symptoms develop with corresponding rapidity, and the reason why children suffering from pulmonary tuberculosis are not found in the London elementary schools is not, as Dr. Hamilton Williams suggests, the inefficiency or carelessness of the medical examiners, but is simply due to the fact that as soon as recognizable physical signs are present the children are usually too ill to attend school. It is true that caseation of the bronchial or mesenteric glands may be latent for long periods, and I shall welcome information from Dr. Hamilton Williams or any one else as to how in the great majority of such cases the presence of these diseased glands can be detected by ordinary methods of physical examination.

To come to personal experience: Out of 120 consecutive autopsies on tuberculous children for which I was responsible, it seemed probable that death was directly due to the tuberculous disease in 94, whilst in 26 it resulted from some intercurrent condition. In 13 of the latter cases the bronchial or the mesenteric glands, or both, were alone implicated, and the diagnosis of tuberculous disease in these would, I believe, have been impossible during life. In the 13 remaining cases there was more extensive tuberculous disease, and in all but one the lungs were affected; with the exception, however, of two or perhaps three instances, the pulmonary lesions were of such a character that they would almost certainly have proved fatal in a few weeks.

Clearly, therefore, in these 120 cases there was no evidence to support the idea that more or less latent disease of the lungs is common in children, and is a frequent precursor of pulmonary tuberculosis in adult life; on the contrary, clinical and pathological findings alike point to the conclusion that, whilst tuberculous disease of the lungs is very frequent in early life, in the great majority of instances it rapidly proves fatal. That is to say, the disease must not be looked for in schools, but amongst children who are ill, either at home or in hospital. If unsuspected pulmonary tuberculosis were at all frequent in early life, it would certainly be met with in autopsies on children dying from other diseases, and until such *post-mortem* evidence is forthcoming I must refuse to accept speculations based on statistics which are liable to many fallacies.

A few years ago we were taught that pulmonary tuberculosis (apart from the miliary form) was always due to infection through the respiratory channels; now the pendulum is swinging in the opposite direction, and we are told that in the immense majority of cases the disease is contracted not by inhalation, but by the ingestion of bacilli or bacilliferous products by way of the intestinal mucosa. We have the further statement that the largest part of the tuberculosis which man obtains through his food is by means of milk containing tuberculous matter. If both these statements are correct, it follows that in most cases of pulmonary tuberculosis the tubercle bacilli should be of the bovine type, but notoriously I believe this is not the fact. Will the supporters of the view that the disease is due commonly to infection by milk through the intestine explain this discrepancy? Does the bovine bacillus, when it multiplies in the lungs, undergo a transformation into the human type? I ask in no spirit of controversy, but merely to get a satisfactory answer to a very important question.—Yours, etc.,

London, W., Feb. 16th. J. WALTER CARR.

THE VACANT POLICE APPOINTMENT IN LIVERPOOL.

SIR,—The attention of the Watch Committee has been called to statements upon pages 435 and 438 in your issue of February 13th, to the effect that the Corporation of Liverpool has taken advantage of a vacancy occurring among the medical attendants to the police force as an opportunity of reducing the pay of the appointment from £80 to £60 per annum.

As a matter of fact the retiring medical attendant was appointed at £60, as have all others appointed to similar offices during the last ten years. The salary is a commencing one of £60, rising by increment of £20 to £80 after five years' service.—I am, etc.,

M. H. MAXWELL,
Chairman of the Watch Committee of Liverpool.

February 16th.

The Services.

THE TERRITORIAL FORCE.

THE LONDON COUNTY ASSOCIATIONS AND THE MEDICAL ESTABLISHMENTS.

THE part which the county associations are called upon to fill in the scheme of the Territorial Force is very important; a county association is responsible for the administration of the units of the force within its county area, except when called up for annual training in camp, when embodied, or when engaged in actual military service. From the formidable list of its duties we select only those which are pertinent to the subject in hand. The county association is required to provide and clothe the necessary men, to find the necessary drill halls, head quarters, storehouses, etc., to provide saddlery for horses, and to arrange for attendance at drills. It receives a grant from army funds, and the income of an association from this source is regulated by the Army Council on the principle of payments by results; the association itself, however, administers and conducts its own expenditure. To meet the general expenses of administration it receives establishment grants, among which are the following: Administrative medical office of the division, £25; mounted brigade field ambulance, £95; field ambulance, £195; general hospital, £40; sanitary company, £85; and for medical details at special rates according to the establishment in the county. The grant made for a medical office is intended to cover the cost of office accommodation, clerical assistance, postage, stationery, etc. To enable a county association to provide the necessary horses for the instruction of mounted men, and such vehicles as are not issued by the War Department for such units as may require them at times other than that of the annual training in camp, it receives special grants. Among these are for a mounted brigade field ambulance £55, and for each field ambulance £60, but the payment of these grants is subject to a certificate of efficiency from the general officer commanding.

Expenditure in connexion with the provision of such land and buildings as the Army Council may consider

necessary for the proper discharge of its functions by the association is met by grants from army funds, and among the buildings to be thus provided are drill halls and head quarters of units.

The regulations contemplate the probability of a deficit, and a county association is authorized to receive money from private sources, either for general or specific purposes.

London has two county associations, one for the City and the other for the rest of London; there is also a county association for Middlesex. In the scheme of organization for the Territorial Force London supplies two divisions and a mounted brigade.

Each division is required under the regulations to provide, in addition to its staff officers—the Administrative Medical Officer, the Staff Officer to A.M.O., and the Sanitary Officer—the following medical units: Three Field Ambulances, two General Hospitals, and one Sanitary Company.

For various reasons the organization of medical units in London has presented peculiar difficulties, and, in spite of the expenditure of much energy and labour, it has only been possible very recently to complete the arrangements for the First Division while those for the Second are still incomplete. The First Division, although not, so far as we can make out, officially assigned to the City of London County Association, seems to have been particularly favoured by that association. In this division the required three field ambulances, two general hospitals, and one sanitary company have been provided, and are now recognized. The number of officers for the three field ambulances is complete, and they have from 52 to 91 per cent. of men. The sanitary company has its five officers, but only 42 per cent. of men; the two general hospitals are complete. It has for head quarters the former head quarters of the Royal Army Medical Corps Volunteers (London) Companies in Calthorpe Street, St. Pancras, W.C., but these are found to be inadequate.

The medical arrangements of the Second Division are in worse case. There are no medical head quarters for the division, and the only foothold that the head quarters staff has is a small room in Craig's Court House, Charing Cross, and it has been threatened with expulsion even from this. Of the three field ambulances for the division, two, Nos. 4 and 5, have head quarters at the Brookhill Road School of Ambulance, Woolwich; the buildings are, however, inadequate for the purpose, have no suitable drill hall, and do not provide sufficient accommodation for the equipment of even one field ambulance. No. 4 Field Ambulance has in addition a small drill hall and accommodation for two ambulance wagons at Erith, and a lecture room and accommodation for two wagons and harness at Dartford. No. 5 Field Ambulance has a lecture room at Greenwich. Both these field ambulances were formed from the R.A.M.C. (Vols.) Woolwich Companies, and are nearly up to full strength. There are, however, vacancies for officers in both. No. 6 Field Ambulance has been raised recently in London, and 71 men and 7 officers having been obtained, application was last week made for recognition by the Army Council. There are still vacancies for three officers; the number of men who have joined since application for recognition was made raises the total to 94. The unit has been raised under very great difficulties, since there was no nucleus to start with and no head quarters; it was for a time permitted to use the head quarters of the 13th Battalion at Kensington, but for the last three months it could only use it as a drill hall once a week, and a room was obtained in Vauxhall Bridge Road, which has been used for recruiting purposes and as a lecture room; this room is at the present moment the only head quarters the Field Ambulance has, for the 13th Battalion has withdrawn permission to use its hall, as it is required for its own purposes. Repeated applications to the London County Association to provide suitable head quarters have always been met with the reply that until the unit is recognized the Association has nothing to do with it. It was pointed out that if the head quarters were allotted the required number of men would be found in a very short time, but this appeal has met with no response. The requisite number of men has now been obtained, but the County Association does not seem to be making any serious effort to find head quarters.

As to the two general hospitals, the staff of medical officers *à la suite* is complete, and the No. 4 General Hospital has its complement of officers and men, so that application for its recognition will shortly be made. No. 3 General Hospital is not yet formed, but it is probable that the whole of the men will be supplied from the staff of one large firm. The Sanitary Company of this division was recognized last July, but down to the present time has not been provided with head quarters, although repeated and urgent applications have been made. It has 2 officers and 55 men, who have been drilling with the 6th Field Ambulance. The full complement of a sanitary company is 5 officers and 105 men.

It is hardly necessary to insist that there are a great many points in the above simple statement of facts which reveal an unsatisfactory state of affairs.

The allowance of £25 per annum to provide an office for the administrative medical officer and his staff, and all office expenses, is so inadequate as to be absurd; it would not pay the wages of an office boy. It is true that this is the sum allowed by the Army Council, but it ought to be supplemented by the County Association.

At present men are only supplied with one suit, and it is really dangerous to send men into camp for fifteen days without a change; fortunately, last year the season was dry, but in a wet summer the consequences to the health of the men might be serious.

The want of transport is a serious drawback to the medical units; each field ambulance should be provided with a minimum of three ambulance wagons, three carts, and three modern water carts.

The importance of the Sanitary Company does not appear to be sufficiently appreciated by the County Association, and yet prevention of disease is recognized to be the most important part of the duties of a military medical service, and is the governing factor in the organization of the Royal Army Medical Corps. Yet, as we have said, the Second Division cannot obtain head quarters in which to train their men in their special duties, and in neither division can they receive even elementary instruction in water purification, since the necessary apparatus cannot be obtained.

ROYAL ARMY MEDICAL CORPS.

EXAMINATION FOR ADMISSION.

THE following is the official list in order of merit (with the marks obtained) of successful candidates for commissions in the Royal Army Medical Corps at the recent examination in London, for which 57 candidates entered:

Name.	Medical School.	Marks.
H. S. Ranken	Glasgow University	588
J. A. Manifold	Edinburgh University	584
P. S. Tomlinson... ...	University College, Bristol	562
W. H. O'Riordan ...	Queen's College, Cork	555
C. T. V. Benson	St. Thomas's Hospital and Cambridge University	549
W. P. McArthur... ...	Queen's College, Belfast	547
E. C. Lambkin	Trinity College, Dublin	545
A. W. Bevis	St. Mary's Hospital, London	543
F. W. M. Cunningham	Edinburgh University	540
E. M. Parsons-Smith ...	St. Thomas's Hospital	538
O. W. McSheehy ...	St. Thomas's Hospital	533
S. S. Dykes	Edinburgh University	531
J. J. D. Roche	Dublin University	531
R. H. Nolan	University College Hospital, London	526
R. C. Priest	St. Thomas's Hospital	519
M. White	Queen's College, Cork	519
R. C. Paris...	King's College Hospital	517
P. G. M. Elvery	Royal College of Surgeons, Dublin	514
H. F. Joynt	Guy's and Durham College of Medicine	511
M. J. Williamson ...	Aberdeen University	511
A. S. M. Winder... ...	Dublin University	509
W. Mathieson	St. Thomas's Hospital and Cambridge University	501
J. R. Yourell	Dublin University	500
J. R. Hill	Edinburgh University	495
C. L. Franklin	Manchester University	485
H. R. Edwards	King's College Hospital	482
A. D. Stirling	University College, Dundee	482
W. B. Rennie	Marischal College, Aberdeen	481
J. Becton	St. Bartholomew's Hospital	471
G. P. Taylor	Edinburgh University	471

EXAMINATION FOR PROMOTION.

The following is the list of successful candidates at the November examination for promotion of Majors of the Royal Army Medical Corps in technical subjects:

Major I. A. O. MacCarthy.—(*d*) ii (already passed in technical subjects).
Major D. J. Collins, M.B.—Technical subjects (already passed in (*d*) ii).
Majors H. A. L. Howell and E. C. Hayes.—(*d*) ii (have yet to pass in technical subjects).
Lieutenant C. M. Drew, M.B.—(*h*) ii and iii (already passed in (*d*) ii and (*h*) i).
Lieutenant A. A. Sutcliff, M.P.—(*h*) iii (already passed in (*d*) ii and (*h*) i and ii).
Lieutenant A. G. Cummins, M.B., and Lieutenant H. E. Gotelee.—(*h*) ii (already passed in (*d*) ii and (*h*) i and iii).
Lieutenant R. G. Archibald, M.B.—(*d*) ii and (*h*) iii (has yet to pass in (*h*) i and ii).
Lieutenant J. B. G. Mulligan and Lieutenant P. S. Stewart, M.B.—(*d*) ii (already passed in (*h*) i, ii, and iii).
Lieutenant T. W. O. Sexton.—(*d*) ii and (*h*) ii and iii (has yet to pass in (*h*) i).

ROYAL ARMY MEDICAL CORPS (TERRITORIAL FORCE).

Major J. Clay M.B., 1st Northumbrian Field Ambulance.—(*d*) ii (as required of an officer of the Regular Forces before promotion to the rank of Major).

Universities and Colleges.

UNIVERSITY OF CAMBRIDGE.

THE following appointments have been made:

Dr. Rivers to represent the University at Fiftieth Anniversary of the Foundation of the Anthropological Society of Paris.
Dr. Langley, a member of the Board of Electors, to the Professorship of Anatomy.
Dr. Fletcher, a member of the Board of Electors, to the Downing Professorship of Medicine.
E. H. Starling, M.D., a member of the Board of Electors, to the Professorship of Physiology.
Sir Clifford Allbutt, a member of the Board of Electors, to the Professorship of Pathology.
Dr. Gaskell, a member of the Board of Electors, to the Professorship of Surgery.
Dr. Humphry has been co-opted a member of the Degree Committee of the Special Board for Medicine.

E. C. Stirling, M.A., M.D., Trinity College, has been approved for the degree of Doctor in Science.

The following degrees were confirmed on February 11th:

M.D.—T. M. Neatby, Joh.
M.B.—B. P. Campbell, Cla.; W. K. Keyworth, St. Selw.
M.B., B.C.—O. R. Smale, Gonv. and Cai.; F. B. Treves, Gonv. and Cai.
B.C.—T. W. Wood, Pemb.

UNIVERSITY OF LONDON.

MEETING OF THE SENATE.

A MEETING of the Senate was held on January 27th.

Recognition of Teacher.

Dr. Francis O'Brien Ellison was recognized as a teacher of physiology at St. Mary's Hospital.

Curriculum for the B.Sc. (Pass and Honours) Examination in Physiology for Internal Students.

It was resolved that in and after 1910 the regulations for the B.Sc. (Pass and Honours) degree in physiology for internal students (Red Book, September, 1908, pp. 195, 207) be amended to read as follows:

A.—*Pass Degree.*

The curriculum in physiology shall consist of:

1. A complete course of not less than sixty lectures on physiology.
2. A practical course of histology extending over not less than three months and occupying not less than sixty hours.
3. A practical course of physiological chemistry extending over not less than forty hours, and including:
   The preparation, properties, and methods of estimation of the chief carbohydrates.
   The properties of fats, fatty acids, and the common oxy-fatty acids; saponification.
   The properties of the chief proteins.
   The action of ferments.
   The chief disintegration products of the proteins; amino-acids and their derivatives.
   Urea; creatine and creatinine; the purin group; uric acid.
4. A course of practical physiology (including demonstrations and practical exercises) extending over not less than six months, and occupying not less than 120 hours.
   In this course the student is expected to acquaint himself with the methods employed for the demonstration of the fundamental physiological processes as laid down in the syllabus, and to carry out such chemical manipulations or simple experiments as are comprised therein.
   A revised syllabus has also been issued.

B.—*Honours Degree.*

The degree is open to the following classes of candidates:

(*a*) Students who have passed the Second Examination for Medical Degrees (Parts 1 and 2) as Internal Students.
   Such students must, subsequently to attending the prescribed courses in physiology for the Second Examination for Medical Degrees, pursue an approved course of study for the B.Sc. honours degree in physiology extending over at least one year, involving not less than sixteen hours' laboratory work per week, as well as attendance at two at least of the courses of advanced university lectures in physiology of the year previous to the examination. Such students will not be required to present any subsidiary subject at the B.Sc. honours examination.

(*b*) Students who have passed the Intermediate Examination in Science.
   Such students must attend the course in physiology prescribed for the B.Sc. pass degree, and must, in addition, after completion of these courses, have pursued a further course of study extending over at least one year, and involving not less than sixteen hours' laboratory work per week, as well as attendance at two at least of the courses of advanced university lectures in physiology of the year previous to the examination.

Subsidiary Subjects.—Human anatomy and morphology, organic chemistry, physical chemistry, physics, zoology, botany.

Assistant to the Professor of Protozoology.

Miss Muriel Robertson was appointed one of the assistants to the Professor of Protozoology, vice Dr. J. D. Thomson, resigned.

Date of the M.B., B.S. Examination.

It was resolved that the examination for internal and external students for the M.B., B.S. degrees held twice in each year should commence on the fourth Monday in October and the first Monday in May.

Appointment of Representatives.

Mr. G. H. Cowen, M.B., B.S., has been appointed a member of the Council of Hartley University College, Southampton. Mrs. Scharlieb, M.D., M.S., has been reappointed a governor of St. Mary's College, Paddington.

Advanced Lectures in Physiology.

Dr. W. Bulloch is unable to deliver the course of lectures on prophylaxis against infection announced to be given by him at the London Hospital Medical College.

DEGREES.

The following candidates passed the examination indicated:

INTERMEDIATE MEDICINE.—C. Aldis, Guy's Hospital; C. H. Backus, St. Bartholomew's Hospital; S. G. Billington, University of Birmingham; Margaret E. Björkegren, London (R.F.H.) School of Medicine for Women; B. Blackwood, University of Leeds and Guy's Hospital; Florence H. Bousfield, London (R.F.H.) School of Medicine for Women; T. D. Bowen, University College, Cardiff, and University College; G. F. Bradley, London Hospital; B. W. Brown, King's College and Westminster Hospital; M. A. C. Buckell, University College; *G. B. Buckley, Victoria University of Manchester; Winifred F. Buckley, London (R.F.H.) School of Medicine for Women; A. B. Cardew, Middlesex Hospital; A. B. Clark, University of Sheffield; J. H. Cobb, University of Sheffield; H. St. C. Colson, King's College; G. Covell, Guy's Hospital; E. G. H. Cowen, Charing Cross Hospital; H. Davies, University College; W. H. Dupré, St. Bartholomew's Hospital; W. H. Eggar, Middlesex Hospital; R. F. Eminson, Charing Cross Hospital; D. B. Evans, University College, Cardiff; G. T. Foster-Smith, Guy's Hospital; Frances J. Freston, London (R.F.H.) School of Medicine for Women; V. Glendining, Guy's Hospital; Alice M. L. Greaves, London (R.F.H.) School of Medicine for Women; F. W. Hamilton, Middlesex Hospital; H. L. Hopkins, Guy's Hospital; W. B. Laird, St. Thomas's Hospital; L. Levene, University College; G. Marshall, Guy's Hospital; †M. Mayers, London Hospital; P. J. Monaghan, Guy's Hospital; Hannah G. Morland, London (R.F.H.) School of Medicine for Women; J. G. Moseley, London Hospital; †C. T. Neve, St. Bartholomew's Hospital; T. T. O'Callaghan, Guy's Hospital; W. H. Parkinson, Victoria University of Manchester; †B. R. Parmiter, Guy's Hospital; *†R. E. Porter, London Hospital; *J. Potter, London Hospital; H. H. Robinson, London Hospital; C. F. Schuler, St. Thomas's Hospital; E. P. Scott, London Hospital; R. G. Sparkes, St. Mary's Hospital; Mildred B. Stogdon, London (R.F.H.) School of Medicine for Women; F. R. Todd, St. Bartholomew's Hospital; J. Tremble, St. Bartholomew's Hospital; R. T. Vivian, St. Bartholomew's Hospital; G. E. S. Ward, Middlesex Hospital; H. P. Warner, Guy's Hospital; *H. H. V. Welch, St. Thomas's Hospital; F. S. Williams, University College, Cardiff, and St. Bartholomew's Hospital; R. M. Wright, University College, Bristol.

* Distinguished in pharmacology. † Distinguished in physiology.

UNIVERSITY OF ABERDEEN.

UNIVERSITY COURT.

Annual Financial Statement.

A MEETING of the University Court was held in Marischal College on February 9th, when Professor Matthew Hay presided in the absence of the Principal who has been indisposed for some time.

The Chairman, as convener of the Finance Committee, in moving the adoption of the report reviewed the condition of the university finances.

General Fund.—The general fund showed a balance on the credit side of £1,334, as compared with a balance of £732 for the year 1906-7. The improved condition was due partly to an increase in the number of students and partly to the raising of the class fees in the Arts Faculty. In 1906-7 the matriculated students numbered 890, while in 1907-8 they were 932, and if the teachers in training who attend university classes are included, the numbers were 1,299, the largest number in the history of the university. The total revenue from class fees payable into the fee fund account, from which the surplus, if any, after paying the salaries of professors, passes into the general fund, was £10,642 in 1906-7 and £11,510 in 1907-8—a gain of £868. The increase of students was confined to the women, who now number one-fourth of the total number of students and nearly one-half of the arts students. The faculty showing the largest growth was the Arts Faculty.

Decrease in Medical Students.—Professor Hay then referred to the decrease in the number of medical students, showing that, in common with nearly all other medical schools, Aberdeen University had had fewer entries in medicine than formerly, but there were now signs that the ebbing of the tide had reached its limit. The Scottish universities could scarcely expect in future to attract any considerable proportion of their medical students from across the Tweed, England and Wales being now

well served by several new universities with an equipment not inferior to their own. If, however, a southern student had decided not to attend the university at his own door, and was attracted by the traditional reputation of the Scottish universities, he ventured to believe that Aberdeen would continue to attract her share of such students, and of students from our Colonies. Aberdeen, both academically and residentially, offered undoubted advantages. The university now possessed laboratories and classrooms of the newest type, the classes were not of unwieldy size, and the various hospitals, which had multiplied in recent times, afforded adequate facilities for clinical instruction. Aberdeen was admittedly one of the healthiest towns in the empire, with a climate suited to vigorous work, as well as to healthy living. There was probably no university town in which students could live more cheaply and comfortably.

Salaries of Assistants and Examiners.—Referring to the salaries of assistants and examiners, amounting to totals of £2,504 and £865 respectively, the Chairman said these could bear to be largely augmented, both by an addition to the emoluments of existing assistants and examiners and by an increase in their number. These two bodies of officers required, in the unanimous opinion of the Court and Senatus, the first consideration in any scheme of increased expenditure. The Finance Committee could not, however, at the present moment encourage a remit for this purpose, as some of the most important of the university ordinances had been recast, or were about to be recast, and the changes involved might seriously affect the revenue from class fees, and might well wipe out the present surplus.

Extension of Buildings.—In the buildings extension account there was a debit balance of £1,087, but it was hoped that the payment of outstanding subscriptions promised to the extension fund would at least reduce the residual burden to the university in regard to this account. It would be a matter of much gratification to the Court and a noteworthy finish to the history of the great extension movement had it been possible to say that the scheme had been brought to a close without any debt.

The Carnegie Grants.—The most vital financial feature of the year was the payment to the university of the endowment grants which had been accumulating in the hands of the Carnegie trustees under their first quinquennial scheme of distribution of grants. The sum thus received last year amounted to £25,000, exclusive of the grants for provisional assistance and for the library. This sum was devoted to the complete endowment of the Lectureship in Geology and to the partial endowment of the Lectureship in French. Under the second quinquennial scheme similar endowments would become available for the departments of Education, Political Economy, and Constitutional History. During the five years just ended the university had received £45,000 from the Carnegie Trust. Of this sum, £30,000 had been capitalized for endowments for History, Geology, and French, while £15,000 had been expended on the annual maintenance of the library, the equipment of laboratories and museums, the provision of certain additional assistants, and the better remuneration of certain lecturers. Whatever criticism might be made in some quarters regarding the payment of class fees by the Trust, all admitted that the grants for the better endowment and equipment and staffing of the university had been of the utmost advantage.

Degree of LL.B.—Professor Hay then referred to the institution of new lectureships in the Law Faculty, which made it possible for the university now to grant the degree of LL.B.

Benefactions.—Finally the Court was reminded of the new benefactions which had been received during the year. Dr. Dey, a member of the Court, continued to give his generous annual donation of £50 to the library. Another recent member, Dr. Crombie, whose retirement from the Court was so sincerely regretted, and whose unsparing generosity had helped them in every financial emergency, had placed the university under fresh obligations by his open-handed assistance to the athletic association in the erection of their much-needed pavilion. Professor Trail, a former member of the Court, had most generously gifted, in memory of his mother, the sum of £1,000, the interest of which was to be applied, under very commendable conditions, for the assistance of necessitous and deserving students. The very valuable Colonel Milne Fund had come into operation last year, and was applied to a similar purpose. It ought to be widely known that certain funds, exclusive of bursary funds, were now available for the private assistance of worthy students attending the university. The Rev. Mr. Miller, Buckie, made a further contribution of fifty guineas during the year to supplement his previous endowment of the Caithness Prize in History. The Primrose trustees provided sums for prizes in Law and Agriculture, and the trustees of the late Mr. William Knox had handed over the sum of £2,134 for the endowment of bursaries in Divinity and Medicine and for scholarships in Arts. The generous bequest of £3,000 by the late Dr. John Wight for medical bursaries had come into operation during the year, the management of the fund being in the hands of a special body of trustees.

The report was approved, and the secretary was instructed to send a copy to the secretary of the Scottish Education Department, as required under the ordinance.

VICTORIA UNIVERSITY OF MANCHESTER.

IT is announced that Sir T. H. Holland, D.Sc., F.R.S., has been appointed to the Chair of Geology, vacant through the resignation of Professor W. Boyd Dawkins. Sir T. H. Holland will, subject to the sanction of the Secretary of State for India, resign the post of Director of the Geological Survey in India, which he has held since 1903, and will also resign the Readership in Geology in the University of Calcutta. It is expected that he will enter on his duties in Manchester next October, and meanwhile the department of Geology will remain under the supervision of Professor Boyd Dawkins, who has been appointed Honorary Professor in the University.

It has been arranged that the Bishop of Salford should give two lectures on Wednesday evenings, March 17th and 24th. The subject of the first lecture will be Medicine and the Medical Science in Ancient Iran; the lectures will be open to the public without charge.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AN ordinary council was held on February 11th, Mr. Henry Morris, President, in the chair.

Election of the Prince of Wales as Honorary Fellow.

The President reported that H.R.H. the Prince of Wales had graciously consented to become an Honorary Fellow of the College. The Council thereupon unanimously elected His Royal Highness an Honorary Fellow.

Diplomas.

Diplomas of Membership were issued to 81 candidates found qualified at the recent examinations. Diplomas were also issued jointly with the College of Physicians to 13 candidates found qualified in Public Health.

Board of Examiners in Dental Surgery.

Mr. C. T. Dent was appointed on the Board, in the vacancy occasioned by the retirement of Mr. G. H. Makins.

CONJOINT BOARD IN ENGLAND.

AT a meeting of the Comitia of the Royal College of Physicians on January 28th and of the Council of the Royal College of Surgeons on February 11th the Diplomas of L.R.C.P. and M.R.C.S. were conferred upon 81 candidates who have completed the Final Examination in medicine, surgery, and midwifery of the Examining Board in England and have complied with the by-laws. The following are the names of the successful candidates, namely:

M. M. Adams, Guy's; D. Allan, Cambridge and Guy's; E. A. W. Alleyne, St. Mary's; M. B. Baines, Oxford and London; C. W. T. Baldwin, Charing Cross; J. J. H. Beckton, St. Bartholomew's; A. W. Bevis, St. Mary's; B. Biggar, St. Bartholomew's; F. J. C. Blackmore, Sheffield and University College; W. Blaydes, Cambridge and St. Bartholomew's; O. H. Bowen, St. Bartholomew's; F. Brachi, St. George's; E. A. Coorey, Ceylon and London; E. L. Councell, Liverpool; B. Dale, King's College and St. George's; J. T. Daly, Middlesex; H. W. B. Danaher, London; M. Davidson, Oxford and University College; Pedro Joaquim de Miranda, Bombay, King's College, and University College; S. Dixon, Cambridge and St. Bartholomew's; P. A. S. Dyson, Guy's; H. L. Gauntlett, King's College; Manchersha Dhanjibhai Dorabji, Bombay and University College; R. L. Glass, Bengal and London; B. G. Goodwin, Birmingham; F. J. Gordon, Cambridge and St. Bartholomew's; A. A. Greenwood, Guy's; S. H. Griffiths, Middlesex; W. E. Haigh, University College; M. Hallam, Sheffield and London; W. Harmens, Cambridge and St. Thomas's; C. B. Heald, Cambridge and St. Bartholomew's; E. C. Hobbs, St. Mary's; W. C. Hodges, Cambridge and London; G. Holman, Birmingham; B. Hughes, Cambridge and King's College; H. E. Humphrys, Cambridge and St. Thomas's; J. E. L. Johnston, St. Mary's; Hormusji Dorabji Kanga, Bombay; Mozaffer Din Ahmed Kureishi, Punjab and King's College; F. F. Laidlaw, Manchester and St. Bartholomew's; M. C. S. Lawrance, Manchester; H. Lee, Cambridge and Guy's; A. E. Lees, Guy's; H. C. Lucey, Guy's; J. C. Marklove, Cambridge and St. Thomas's; Shamrao Ramaro Moolgaokar, Bombay and King's College; S. P. Mort, Manchester; H. R. Mullins, Oxford and Guy's; W. J. O'Donovan, London; E. E. Paget-Tomlinson, Cambridge and London; W. J. Penfold, Edinburgh; A. H. Penistan, London; J. R. Perdrau, Guy's; M. W. Phipps, Cork and London; C. C. Pickles, Leeds; C. M. Plumptre, Guy's; N. Prescott, University College and King's College; F. C. Pybus, Durham and St. Bartholomew's; C. Raymond, Cambridge and London; W. F. Rhodes, Cambridge and St. Thomas's; J. S. Robertson, London; D. D. Rosewarne, New Zealand and St. Mary's; Ahmed Said, Cairo, St. Thomas's, and London; A. F. Sanderson, St. Thomas's; H. W. Scawin, Sheffield and St. Thomas's; A. Sinclair, Toronto and University College; D. P. Smith, Birmingham; I. N. Spedding, Otago and Middlesex; H. E. S. Stiven, Cambridge and London; A. C. Sturdy, Cambridge and St. Bartholomew's; F. R. Thornton, Cambridge and St. Thomas's; W. W. Uttley, Manchester; R. G. Vaughan, Bristol; G. B. Wainwright, Cambridge and St. Thomas's; H. K. Waller, Cambridge and University College; W. E. Wallis, Cambridge and Guy's; F. J. Wheeler, Guy's; J. H. Wickert, London; H. B. Wilson, Cambridge and St. Thomas's; P. F. Wilson, Cambridge and St. Bartholomew's.

CONJOINT BOARD IN IRELAND.

THE following candidates have been approved at the examinations indicated:

FINAL PROFESSIONAL.—J. J. Barry, C. H. Bryan, F. S. Crean, J. J. Cuskelly, C. J. B. Dunlop, J. J. Dwyer, J. Ellenbogen, D. J. Harty, P. Maguire, J. O'Brien, M. C. O'Hara, D. O'Sullivan, W. G. Ridgway, H. N. Ritchie.

DIPLOMA IN PUBLIC HEALTH.—Captain W. O'S. Murphy, L.M.S., M.B.R.U.I.; S. Poole, M.D.Univ. Edin.

Medico-Legal.

WHAT IS AN ACCIDENT?

The much-vexed question, What is an accident within the meaning of a policy of insurance? has once more come before the courts for consideration. The companies make every endeavour to avoid accepting liability for any death caused by disease or other intervening cause. A case which was heard in the Court of Appeal last week shows how difficult it is to frame a policy which will effect this object.

It appeared that by the terms of a policy the company undertook that if at any time during the continuance of the said policy the insured should sustain "any bodily injury caused by violent, accidental, external, and visible means, then: (*a*) In case such injury should within three calendar months from the occurrence of the accident causing such injury directly cause the death of the insured, to pay to the legal personal representatives of the insured the capital sum of one thousand pounds." The policy further provided as follows: "Provided always and it is hereby as the essence of this contract agreed as follows: . . .

"3. That this policy only insured against death . . . where accident within the meaning of the policy is the direct or proximate cause thereof, but not where the direct or proximate cause thereof is disease or other intervening cause, even although the disease or other intervening cause may itself have been aggravated by such accident, or have been due to weakness or exhaustion consequent thereon, or the death accelerated thereby."

The insured when hunting, while endeavouring to jump his horse over a fence in which a strand of wire was concealed, was violently thrown to the ground upon the far side of the fence, which was a few feet lower than the side from which he took off. He fell upon his left shoulder and side. The ground was very wet, and the arbitrators before whom the case came in the first instance found as a fact that he was wet to the skin by the fall. They also found as a fact that as the result of the fall the insured suffered no trauma or wound to the body or lung, but that he did suffer a severe shock to the nervous system whereby the general vitality of his body was impaired. After the fall the insured remounted his horse and rode towards home. He was overtaken as soon as possible by his second horse, on which he then continued his journey home at a trot, where he arrived at about 2 p.m. The arbitrators found as a fact that to ride home in the way he did was, in the circumstances, the course least likely to aggravate the effects of the accident, and was rendered inevitable by it. The effect of the shock from which he suffered was to lower his general vitality, and the effect of the ride home in his then condition was to lower his vitality still further. The cumulative effect of both these causes, but not the effect of either exclusively of the other, was to lower the general vitality of his body to an extent which made attack by the pneumococcus possible, and the arbitrators found that onset thereupon took place one and a half hours after the accident.

The course of this disease the arbitrators found upon the evidence to be as follows: The pneumococcus is generally present in the respiratory tracts of the normally healthy, but remains innocuous by reason of the resisting power of the body and of the lung in particular. If the vitality of the lung is lowered either directly or locally by physical injury to it, or indirectly by the general vitality of the body being lowered, the resisting power of the lung, together with that of the other organs, is impaired, and so continues until the vitality is restored. When the resisting power is impaired the pneumococcus is enabled to settle upon the lung, and, while it remains impaired, to multiply there.

The Court of Appeal held that the direct or proximate cause of the death included all those things which could fairly be considered as attendant results of the accident; that the words "disease or other intervening cause" meant a cause independent of the accident; and that the death was the direct result of the accident.

STATUS OF AN UNREGISTERED DENTIST.

In a judgement issued by Sheriff Thomson (Hamilton), in connexion with a case at the instance of a dentist against a customer for the recovery of a sum for remaking a set of teeth, he dealt with a question as to the power of an unregistered dentist to recover fees for work done. The pursuer's agent cited the judgement of an English court in support of his contention that the Dentists Act only prohibited an unregistered dentist from recovering charges for operations, such as teeth extraction. The Medical Act of 1886 was quoted by the defendant to show that the prohibition embraced charges for other dental operations. Sheriff Thomson took this view, holding that the pursuer was not entitled to recover payment for the work done; he granted absolvitor, with expenses.

FEES TO MEDICAL WITNESSES FOR GIVING EVIDENCE AT INQUESTS IN WORKHOUSES IN IRELAND.

Dr. Daniel Crowley (Coroner for S. Division, Galway, Loughrea), writes: Omitting certain unnecessary words from paragraph xxxii, 9 and 10 Vict., cap. 37, Coroners Act Ireland, the following will be found:

> That when any Inquest shall be holden on a person who has died in any public Hospital, or Infirmary or in any Building, or Place belonging thereto, or in any County or other Lunatic Asylum, or in any public Infirmary, or other public Medical Institution, whether the same be supported by Endowments or by voluntary subscriptions, then the Medical Officer whose Duty it may have been to attend the deceased person is not entitled to the fees or remuneration herein provided.

A workhouse hospital in Ireland is not a public one, neither is it supported by endowments or voluntary subscriptions: it is only for the poor, and consequently I hold the medical officer is entitled to his fee for giving evidence. There are people treated besides the poor, but the medical officer is not entitled to any remuneration from them for his services. I am twenty years a coroner and have two workhouses in my district. I have always paid the medical officer the usual fee when holding inquests in either of them, and have held inquests in two others when acting for adjacent coroners, and have done the same, but now a coroner cannot act outside his own district since Mr. French, M.P., Coroner for Wexford, rushed his bill through the House of Commons last August. Mr. French did not consult any of the co. Galway coroners when pushing his bill, and that would have been the time for doctors of public medical institutions to get paragraph xxxii repealed if they had only known.

CUSTOM AS TO ASSISTANTS.

R. R. R. asks: (1) Should an outdoor assistant be allowed to put up his name plate on the house in which he resides? What is the custom or law on the subject? (2) Is it customary for an outdoor assistant to provide himself with the usual surgical and obstetrical instruments, such as clinical thermometer, midwifery forceps, Higginson's syringe, the usual pocket case of instruments, and hypodermic syringe?

*** (1) There is nothing illegal in an outdoor assistant putting his name plate on the house in which he resides, but it is not customary. Most principals would object to it, as it might seem to the public to imply a partnership, which as a matter of fact did not exist. (2) It is customary for the principal to supply all such instruments, and any others that may be necessary for use in his practice. Even if an assistant may possess any of such instruments, the principal has no right to expect him to make use of them while in his service.

Medico-Ethical.

The advice given in this column for the assistance of members is based on medico-ethical principles generally recognized by the profession, but must not be taken as representing direct findings of the Central Ethical Committee.

THE DUTIES OF NURSES.

Ignorans.—We are informed that hospital nurses are taught to make the patients wash their private parts for themselves, except in the case of helpless patients, in fevers and the like, where the nurses have to do it.

CONTRACT NOT TO PRACTISE.

A. writes that thirty years ago he agreed not to practise in B.'s district; the wording of the agreement is that "the said A. will not carry on or assist in carrying on the said profession, business, or calling of surgeon or apothecary in" B.'s district, and goes on to say that A. may practise in a small town near called Z., where A. lives and has his surgery. (1) A patient of A.'s of several years' standing calls at his surgery in Z. with her child for treatment, and receives medicine for which she pays. When told by A. that the child should be seen in the morning she mentions that she has moved to another village, which is in B.'s district. A. at once tells the woman to send for B. in the morning. He asks, Does this constitute a breach of agreement, as the child was living in B.'s district, but attended in Z., where A. has permission to practise? (2) Would it be a breach of agreement for A. to attend at his surgery in Z. a genuine patient who lives in his district, but who is temporarily living in B.'s district, the patient having never been attended by B.?

*** (1) Yes, this is a breach of the agreement, but as A. committed it unwittingly, and so soon as he knew referred the case to B., it would hardly be a good foundation for an action for breach of contract; but it would have been better if A. had written a note to B. to explain. (2) No, this would not, in our opinion, constitute a breach of agreement. We may say that in such cases there should be a fair and liberal interpretation of the contract on both sides, and so long as there is an obvious intention to keep loyally to it, we do not suppose any difficulty will arise about such small points.

THE ADVERTISING DRUGGIST.

H. K. writes to complain that a firm of druggists has sent a circular to the matron of his hospital drawing her attention to the value of a certain culture of the lactic acid bacillus, and offering, if their preparation is used, to assist by making bacteriological examinations of the finished product.

*** Our correspondent is of opinion that such a communication should have been addressed not to the matron but to the medical staff, and we agree that all matters of this kind should be addressed to the secretary of the hospital rather than to the matron. In any case, however, the matter is one for the decision of the medical staff.

MEDICAL ETIQUETTE.

PEN writes: A. being ill, and B., his assistant, doing his work, a patient who did not like to be attended by an assistant called in C. We are asked to say: (1) Would it be considered professional for A., who has recovered, to write to his patient or to C., stating that he is now able to resume his work? (2) What is the etiquette on C.'s part when he knows that the reason for his attendance on A.'s patient is that A. was ill?

*** A. may write to his patient and say that he is well again, and will be glad to resume charge if so desired. (2) C. should express his willingness to hand over the case to A., but if the patient desires it he may continue to conduct the case to its termination.

PUBLIC HOSPITALS AND PRIVATE NURSING.

GENERAL PRACTITIONER sends a copy of a circular issued by a provincial hospital enclosing a card of terms for nurses supplied from the hospital, and stating that all the nurses engaged on the hospital's private staff have had a full training of three years. The circular is signed by the senior physician and senior surgeon. Our correspondent raises the question whether this does not savour of undesirable advertising on the part of the signatories.

*** Some hospitals endeavour to help their funds by supplying private nurses, and presumably the circular was issued as an advertisement to promote this object. It would have been better, however, if it had been signed by the secretary and the matron instead of by any of the medical and surgical staff.

Public Health AND POOR-LAW MEDICAL SERVICES.

POOR-LAW MEDICAL OFFICERS' ASSOCIATION OF ENGLAND AND WALES.

A MEETING of the Council of this Association was held at 9, Copthall Avenue, London Wall, E.C., on February 4th, Dr. Balding, J.P., in the chair.

Superannuation.—A member about to retire from his Poor-law appointments, one of which he had held for forty-eight years but the other for only twenty, inquired whether he was entitled to the same pension as if he had held them both for the full term of forty years. It was considered by the Council that he was entitled to be paid on the same scale as if he had held both for the full term of forty years; that the only points that could be taken in estimating his pension under the Superannuation Act of 1896 were, (1) How long he had been in the Poor-law service; (2) what was the amount of his Poor-law salaries at the time of his retirement?

Medical Inspection of School Children.—Another member wrote complaining of the extra work that had been brought upon Poor-law medical officers through the working of the provisions of the Act with reference to the medical inspection of schools, and asking if something could not be done to obtain extra remuneration for work of this nature. After some discussion, the Council decided that no steps could be taken until it had better evidence as to the amount of extra work entailed. Another member complained of the recent Notification of Tuberculosis Order issued by the Local Government Board, especially of the cumbersome form of the certificates to be given and of the smallness of the fee. The Council considered that it was too early to make representations to the Local Government Board, and that it would be better to watch for a time the working of the Order.

Dismissal of Medical Superintendent.—A case was considered in which the appointment of a medical superintendent of a Poor-law institution had been determined by the board of guardians, presumably in consequence of a charge made against him by the matron. This charge had never been investigated by the guardians, who had simply postponed its consideration for three months, and had then determined the medical superintendent's office. It appeared that in this case the guardians had full power to appoint to and determine the office without requiring the consent of the Local Government Board, so that the officer was entirely at the mercy of the guardians. The solicitor to the association thought that the postponement of the matter by the guardians had been to give the accused time to bring an action against the matron, and that, as this had not been done, they had dismissed him. The letters of the complainant showed that the institution in question was in an unhealthy state, and that its administration seriously required looking into. After some discussion, in the course of which several of the members present expressed their regret that the complainant had not promptly sued the matron for damages, it was decided to bring the facts of the case before the Local Government Board, and satisfaction was expressed that the local Division of the British Medical Association had intervened in the matter.

Alleged Illegal Appointment.—A letter was read from the Local Government Board in answer to the complaint of the association with regard to the alleged illegal appointment of a district medical officer by the Driffield Board of Guardians. In answer to the complaint that no advertisement had been issued by the guardians, and that after the election, a locumtenent had been paid for by them until the officer elected could take up his duties, it was stated by the Local Government Board that the appointment was legal, as notice had been given of the election at one of the two preceding board meetings according to Article 156, General Orders, July, 1847; and that with regard to the payment for locumtenent, objection must be raised before the local auditor. The opinion of the Council was that when such notices of election were given under Article 156, the proposed salary of the officer was also stated, or it was presumed that the salary would be the same as that of the predecessor of the officer to be elected. As in Article 157 it was specially laid down that the salary must be stated in the advertisement issued for such an officer, it seemed reasonable to suppose when the alternative notice was given at a preceding board meeting, that there also the salary would be mentioned. The honorary secretary was instructed to write again to the Local Government Board, and make inquiries on this point. It was also decided to instruct if possible one of the Driffield ratepayers to appear before the Local Government Board auditor, when he made his periodic audit of the accounts of the guardians.

HEALTH OF CARDIFF.

THE estimated population of the city of Cardiff in the middle of the year 1908 was 191,446; 5,172 births and 2,538 deaths were registered, equivalent to a birth-rate of 27.0 and a death-rate of 13.2. The number of deaths from zymotic diseases was 219, and there were 644 deaths under 1 year of age, yielding a zymotic death-rate and infant mortality-rate of 1.14 and 124 respectively. Measles caused 5 deaths, equal to a death-rate of 0.02, scarlet fever, 10 deaths (0.05); diphtheria, 22 deaths (0.11); enteric fever, 7 deaths (0.03); whooping-cough, 48 deaths (0.25); diarrhoea, 127 deaths (0.66); respiratory diseases, 392 deaths (2.04); phthisis, 218 deaths (1.14); other tuberculous diseases, 94 deaths (0.49).

The following table shows the birth-rate, death-rate, zymotic death-rate per 1,000 persons living, and infantile mortality in Cardiff as compared with the rates in England and Wales during 1908, and with the rates in Cardiff during previous years:

	Birth-rate.	Death-rate.	Zymotic Death-rate.	Infant Mortality-rate.
England and Wales ...	26.5	14.7	1.29	121
76 great towns	27.0	14.9	1.59	128
142 smaller towns ...	26.0	14.0	1.26	124
England and Wales (less the 218 towns)	26.2	14.7	0.99	110
Cardiff	27.0	13.2	1.14	124
Cardiff (1907)	25.9	15.0	1.91	131
Cardiff (ten years) 1897–1906)	31.4	15.8	1.98	145

MEDICAL INSPECTION OF SCHOOL CHILDREN.

A MEDICAL INSPECTOR OF SCHOOLS.—1 and 2. In an urban district with a population of 30,000, and where there are about 5,000 children in twelve schools, the medical inspection of the children who enter, and of those who are about to leave, would take quite two hours a day for three days a week during the school year. The remuneration for this should be at the rate of £150 per annum, based upon the following recommendation of the Subcommittee of the Medico-Political Committee of the British Medical Association:

> That the remuneration of a medical inspector be calculated on the principle of a definite rate per working hour. That the school medical officer be paid at the rate of £50 per annum for an attendance of one half a school day per week, half a school day being defined to be two hours.

3. The Local Government Board does not sanction a whole-time appointment as medical officer of health at a smaller salary than £500 per annum. This would be a fair salary for a town of the size named.

4. It is neither customary nor necessary to "test the vision" in the case of children under 6 years of age, but in the case of children suffering from strabismus or other obvious visual defect it is usual to make an examination.

Obituary.

JOHN TAWSE NISBET, M.D., C.M.Edin.,

LIVERPOOL.

We regret to have to announce the sudden death, in the prime of life, of Dr. John Tawse Nisbet, of Liverpool.

Dr. Nisbet was the son of a distinguished clergyman of the Church of Scotland, the Rev. Dr. Nisbet, of the Cathedral of St. Giles, Edinburgh. His mother, whose maiden name was Tawse, belonged to a family long settled at Stobshiel, East Lothian.

Dr. Nisbet had a distinguished career in the University of Edinburgh, and graduated M.B., C.M. in 1884. He took the degree of M.D. in 1889, his thesis being commended. He was successively House-Physician in the Edinburgh Royal Infirmary and House-Surgeon in the Edinburgh Royal Hospital for Sick Children, and then established himself in Liverpool, where he was appointed Assistant Medical Officer to the Infirmary for Children, a position which he held for fifteen years. He was also Consulting Physician to the Children's Rest, an institution in which he was keenly interested. He held the rank of Surgeon-Captain in the Lancashire Hussars. Dr. Nisbet enjoyed a large and high-class general practice. His professional gifts were of a high order; these, combined with his kindliness, geniality, cheerfulness, and self-sacrificing devotion to the interests of his patients, caused him to be beloved and esteemed in no ordinary degree. His end came with startling suddenness. He had often been told by those who knew him intimately that such incessant work as he undertook, with few if any holidays or times of relaxation, involved no little personal risk; but there was no reason to suppose that he was suffering from any serious disease, nor, indeed, that he was ill at all. On Saturday, February 13th, while he was visiting a patient, he was suddenly seized with faintness, and, though every possible means of resuscitation was tried, he expired in a few minutes by the bedside of the patient whom he had come to attend. The event was a pathetic, though in a sense an appropriate, ending to a singularly useful, kindly, and laborious life, devoted solely to the welfare of the sick and suffering.

Soon after settling in Liverpool, Dr. Nisbet married Miss McCardy, and he leaves a son and a daughter, both grown up. Dr. Nisbet was a great and general favourite among his medical brethren. His removal will be deeply mourned by his patients, who always found in him a faithful friend and adviser, and by a large circle of private and professional friends. The interment took place on February 16th, at Halewood Church, preceded by a service at Christ Church, Linnet Lane. A very large gathering of medical practitioners and others attended to show their esteem and regard for the deceased.

Dr. S. W. Thomson, who succumbed on February 13th to an attack of post-influenzal pneumonia, will be greatly mourned by many friends and medical colleagues. He was peculiarly endowed with the power of gaining and returning affection. He was an Owens College man, and graduated M.B., Ch.B. in 1894. He had led a very varied life, but all his leisure was devoted to philosophical speculation, reading, and discussion. His thesis for the M.D. of the Victoria University, Manchester (1905), was a learned attempt to explain the activities of the nervous system in terms of electrical energy, a close analogy being drawn between the synapsis and the elements of a Leyden jar. In later years he had been working at an elaboration of this theory. He served with distinction in the Ashanti expedition for the relief of Coomassie, and was specially mentioned for saving life by sucking the wound from a poisoned arrow. For some time he was partner in practice with Dr. Vansbrough Jones, of Didsbury, and was universally beloved. Thereafter he made many voyages to Brazil and elsewhere, and was in great demand among the captains as a ship's doctor. He had lately been acting as Assistant Medical Superintendent at the Sandlebridge Epileptic Colony.

The death is announced after a long illness of Dr. Frank Utten Purchas, of Newtown, Montgomeryshire. He was born in Jamaica in 1861 and was educated at the Godolphin School, Hammersmith. He returned to Jamaica and subsequently resolved to enter the medical profession, and graduated M.B., C.M. in the University of Edinburgh in 1887, taking the degree of M.D. in 1890. Shortly after graduating he went as an assistant to Newtown, subsequently joining his former principal, Dr. Ferguson, in partnership. He was Senior Medical Officer to the Montgomeryshire Infirmary, in which he took much interest; he raised a fund to complete the equipment of the operating room and was an ardent supporter of a project to build a new infirmary. He was also Certifying Factory Surgeon and Parish Medical Officer for Bettws and Llanllwchaiarn and Medical Officer for the Post Office. In 1891 he married the second daughter of Sir Pryce Pryce-Jones, by whom and by one daughter he is survived. His skill in his profession and the interest he took in public work related to it caused him to be very highly esteemed in the district in which he practised, where his loss will be much felt.

By the death of Mr. T. J. Patrick Hartigan at the comparatively early age of 48 the profession has lost an able and energetic member. The son of an army officer, he spent his youth in India, whence he returned at the age of 17. He studied medicine at Galway, and was for some years Surgeon on the P. and O. and other steamship lines. After practising for a short time in Shropshire he settled in general practice at East Grinstead. In 1894 he became Medical Officer to the East Grinstead Workhouse and Urban District. Subsequently he was elected a member of the Urban District Council, of which a couple of years later he became Chairman. Not content with general practice in a quiet country town, Mr. Hartigan's ambition led him to take the Fellowship of the Royal College of Surgeons of England in 1899. While studying for these examinations at St. Bartholomew's Hospital he visited London daily, although continuing to practise at East Grinstead. Eventually giving up general practice, he devoted himself to dermatology, which he had studied in Vienna and elsewhere. Being appointed Assistant Surgeon and Pathologist to the Hospital for Diseases of the Skin at Blackfriars, he started practice as a skin specialist in Harley Street, and was beginning to do well in this branch of his profession, when his promising career was brought to a close. For the last two or three years his health had been failing, and he had been under medical treatment for renal disease which led ultimately to somewhat sudden heart failure. He leaves a widow and two young children.

We have to announce the death of Dr. J. J. Murphy, a well-known general practitioner in Dublin, where he enjoyed a very considerable practice for many years. He became a Licentiate of the Apothecaries' Hall in 1872, and in the same year obtained the licences from the Edinburgh colleges. He was very popular, and as a practitioner had the confidence of the public. He was twice married, his second wife being the daughter of the Right Hon. T. A. Dickson, at one time a prominent member of the House of Commons. He leaves a widow and five children.

Mr. J. Leslie Fraser, L.D.S., of Inverness, was well and favourably known to the profession in the North of Scotland. He was a welcome and honoured guest at all the meetings of the Northern Counties of Scotland Branch of the Association, seldom missing a meeting, his pleasant social qualities adding much to the success of our gatherings. For two years past he had suffered from repeated attacks of cardiac asthma. Last year he derived great benefit from a course of treatment at Nauheim, his friends fondly hoping that by taking things easy he might eventually be restored to his former robust state of health. An attack of cardiac distress, however, accompanied with uraemic symptoms, proved too much for an already weakened heart, and he passed away on the morning of February 12th, in his 47th year. Mr. Fraser had one of the largest dental practices out of Edinburgh, patients coming to consult him from long distances. As already indicated, Mr. Fraser was highly respected by the medical practitioners in the North of Scotland; he was a man of the most genial character, kindly disposed to all who were

in any trouble or distress; he will be much missed by a large circle of friends, who to his widow and children extend their warmest sympathy.

NEWS has just been received from South Africa of the death of Dr. JAMES KEY, eldest son of Dr. Andrew Key, of Montrose, one of the senior members of the profession in the north-east of Scotland. After receiving his early education in Montrose, Dr. Key went to the Aberdeen Grammar School, later on going to Marischal College, where he graduated M.B. and C.M. in 1890. After assisting his father in Montrose for two years, he went to South Africa, and, on the outbreak of the Boer war, was among the first to take up arms on behalf of the Mother Country. He served throughout the campaign as captain in the regular army, and received the South African medal with three bars, as well as the King's medal. Dr. Key had the distinction of receiving Lord Roberts on the distinguished Field-Marshal reaching Bloemfontein. At the close of the war he was gazetted a captain in the South African Constabulary. He subsequently acquired a practice in Roodepoort. While studying in Aberdeen Dr. Key made a name for himself in sporting circles. He was a crack Rugby forward in the university team, and as a batsman his services were greatly valued in the university as well as the Aberdeenshire county eleven. He was 41 years of age, and leaves a widow and two sons to mourn his loss.

SURGEON-MAJOR THOMAS JOHN TUCKER, who died on January 27th, at his residence at Hindon, Wiltshire, was born in 1828, and received his medical education at Guy's Hospital. He obtained the diploma of M.R.C.S.Eng. in 1855, and in the same year entered the army as an assistant surgeon. He served first with the 10th Regiment during the Indian Mutiny, and was present when three native regiments mutinied at Dinapur on July 25th, 1857, and at the defeat of the rebels under Koer Singh, with the capture of Jugdespur in the following August. In February and March, 1858, he took part in the advance to Lucknow, and was present at the actions of Chanda, Umeerpur, Sultanpur, and Duraha, and at the siege and capture of Lucknow. For his services he received the Mutiny medal and clasp. Subsequently he served with the 31st Regiment and retired in 1877 with the rank of surgeon-major.

DEATHS IN THE PROFESSION ABROAD.—Among the members of the medical profession in foreign countries who have recently died are Dr. Eugene Boddaert, of Ghent, a young surgeon who had already won for himself a considerable reputation by his work, especially in the domain of urinary surgery; Dr. Henry Lamy, Physician to the Tenon Hospital, Paris, Director of Professor Chantemesse's laboratory, where he made researches on the action of the typhoid toxin on the nervous system, and on the mechanism of the renal secretion, author of articles on epilepsy, Graves's disease, and myxoedema, etc., aged 45; Dr. Van Ryn, of Brussels, General Secretary of the Belgian National League against Tuberculosis; Freiherr Franz von Preuschen von und zu Liebenstein, Professor of Gynaecology in the University of Greifswald, aged 64; Dr. G. Ruegenburg, of Bonn, a member of the Reichstag since 1903, and of the Chamber of Deputies from 1898 to 1907, in both of which assemblies he was a staunch defender of the interests of the medical profession, aged 68; Dr. F. Legge, Professor of Anatomy in the University of Cagliari; Dr. G. dell' Isola, Lecturer on Medical Pathology in the University of Pavia; Dr. P. J. Diakonoff, Professor of Surgery in the University of Moscow; Dr. J. E. Marques, sometime Professor of Clinical Medicine in the University of Coimbra; Dr. S. B. Ranneft, formerly Lecturer on Orthopaedic Surgery in the University of Groningen; Dr. M. Tschistjakoff, Lecturer on Venereal Diseases at the Russian Army Medical Academy, St. Petersburg; and Dr. R. Rybalkin, Medical Director of the Department of Nervous Diseases in the Marien Hospital, St. Petersburg.

MESSRS. EVANS, GADD AND CO., of Bristol and Exeter, have issued, with the title *Drugs and Medical Requisites*, a price list, which, in addition, contains prescribing notes, an article on violet leaves in medicine by Mr. H. Wippell Gadd, a list of synonyms, and a note on the standardization of drugs.

Letters, Notes, and Answers.

BRITISH MEDICAL ASSOCIATION AND BRITISH MEDICAL JOURNAL

THE offices of the British Medical Association and of the BRITISH MEDICAL JOURNAL are at 429, Strand, London.

COMMUNICATIONS respecting Editorial matters should be addressed to the Editor, 429, Strand, London, W.C.; those concerning business matters, advertisements, non-delivery of the JOURNAL, etc., should be addressed to the Office, 429, Strand, London, W.C.

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Aitiology, London*. The telegraphic address of the BRITISH MEDICAL JOURNAL is *Articulate, London*.

TELEPHONE (National):—

2631, Gerrard, EDITOR, BRITISH MEDICAL JOURNAL.

2630, Gerrard, BRITISH MEDICAL ASSOCIATION.

2634, Gerrard, MEDICAL SECRETARY.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C., on receipt of proof.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look at the Notices to Correspondents of the following week.

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

In order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL, and not at his private house.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

☞ **We would request correspondents who desire to ask questions in this column not to make use of such signatures as "A Member," "A Member B.M.A.," "Enquirer," and so on. By attention to this request much confusion would be avoided. Correspondents are asked to write upon one side of the paper only.**

KHOJUK would be much obliged to any member who would suggest an aural instrument for an old lady, aged 70. Deafness has come on gradually, and is apparently due to advancing years. What she requires is some form of apparatus which would enable her to hear general conversation in a small room.

DEXTER asks for advice with regard to a patient, aged 4, suffering from paresis of the right arm and leg, caused by falling on her head when 3 months old. The patient can use the arm for the coarser movements, and run about fairly well without much fatigue but with a slight limp; there is a slight dropping of the toes, and a considerable amount of eversion but very little shortening. He desires to know if any light instrument can be used to correct this, or would operative treatment be of more use, and, if so, at what age it should be done? The patient has a boot with iron support to calf and a spring to lift the toes, but this does not correct eversion.

GOAT'S MILK.

DR. COLIN CAMPBELL (Southport) writes: Would any of your readers very kindly inform me where I can obtain a healthy young goat in kid, and what would be a reasonable price? I want one badly.

LETTERS, NOTES, ETC.

A WARNING.

DR. OGIER WARD (73, Cheapside, London, E.C.) writes to warn medical men with regard to a man who applied to him, giving the name of Morris, for clerical work and bookkeeping. From information in the possession of the Charity Organization Society, it appears that he also goes by the names of Wallis, Watts, and perhaps Hart. His story with regard to his past employers appears, so far as it can be tested, to be untrue, and the references he gives are unwarranted. He is said to be tall, spare, active, looking about 30 years of age, wears glasses, and speaks rather jerkily.

PROPORTIONAL REPRESENTATION.

DR. G. CRICHTON (London) writes: In France a new electoral law is called for, and an important political party, in a manifesto just issued, makes a special feature of proportional representation. In the new Constitution of United South Africa the Parliament which will be created and will exercise sovereign powers over the different states is "to be elected by proportional representation, so avoiding the possibility of the tyranny of majorities." It is plain common sense that this method, which has been before the Associa-

tion for two years, should at the present juncture be carefully considered. It has been before the Annual Meeting on two occasions, and has been slurred over. The plan of single-member constituencies was introduced into Parliamentary elections at the instance of the late Marquis of Salisbury twenty years ago, and has from the first proved most unsatisfactory. The recent scheme for elections to the Central Council adopts this plan, about to be discarded in politics. Is it too much to ask that committees of Divisions, especially those members who are to be Representatives, should take the trouble to comprehend the scheme? It is really very simple in its working. A model election might be arranged at trifling cost. A clear statement of the minds, the opinions of the members of our great Association, is far from being a matter of indifference. Otherwise, men elected on no clear ground will act, if at all, indecisively; and as there is a constant change of *personnel* on our Councils, so our policy will be unstable, depending on their private opinions, and not, as it should, on clear principles thoroughly debated beforehand. An explanatory pamphlet is issued by the Proportional Representation Society—price 1d.—28, Martin's Lane, Cannon Street, London, E.C. Surely every secretary who has an intelligent interest in the working of our machinery will supply his committee with these.

AN ALLEGED CURE FOR CONSUMPTION.

MR. H. OSBORNE O'HAGAN (Casa del Mare, Cabbe Roquebrune, Alpes Maritimes, France) writes: May I be permitted to correct an impression that may have been given in my letter which appeared in your issue of January 16th last? I spoke of the rights I had acquired for the Churchill treatment without explaining that these rights were in connexion with the inhalant "spirone," and I did not include the Churchill preparation of hypophosphites, the full advantages of which had already been disclosed. The inhalant alone was the secret treatment which was claimed as a specific for all inflammation in connexion with the lungs, throat, nose, etc.; but foremost in his treatment of tuberculosis stand the hypophosphites, although Dr. Churchill stated in his works that the inhalant was such a valuable adjuvant in such cases as to double the success both in time and in the number of cases. It is only recently that I fully realized this, although in tuberculous cases I have always stipulated also for the use of the hypophosphites. So long as the physician has information of the particular hypophosphites to be used he does not want the formula, and as to the inhalant the formula for that is now at the disposal of the medical profession. It is essential that the hypophosphites should be pure, and to secure this the late Dr. Churchill placed the preparation of his hypophosphites with Messrs. Swann, the eminent chemists, of Paris, who hold the sole rights thereof. I am anxious that it should be understood that in advocating the use of hypophosphite and spirone I am in no way interested in Dr. Churchill's particular preparations of the hypophosphites.

MEDICAL FOOTBALL.

THE match between the United Hospitals and the Royal Navy, played at Richmond on February 10th, resulted in a win to the Navy by eleven points to three. The Navy had a fairly representative team, but the Hospitals suffered very severely from the absence of the London Hospital backs. The most notable features of a game remarkable for the excellence of the play was the particularly clever run by which Coopper scored for the Navy just after half time, tricking his opponents on three several occasions by feinting to pass and continuing his run, and the really brilliant co-operation between the Hospitals' representatives which resulted in Mullins securing a try shortly before the finish of the game.

The big scores to which the London Hospital fifteen are rapidly becoming accustomed were increased, when playing against St. Mary's, in the Inter-Hospital Challenge Cup-Tie; the London secured a victory by thirty-nine points to none.

In the first round of the Inter-Hospital Cup-Tie at Richmond, King's College Hospital, after making a good fight in in the first half, were beaten by St. Thomas's Hospital by three goals and three tries to a try.

The London Hospital defeated Charing Cross at Richmond by thirty-two points to *nil*. Charing Cross, however, though obviously overplayed, made a capital defence, and on one or two occasions seemed as if they would succeed in stealing a try from their opponents. Lindsay and Heale, as half-backs for the London, were largely responsible for the heavy scoring, giving the three-quarter line all their opportunities.

A hotly-contested match on the same day between University College Hospital and Guy's resulted in a victory for the latter side by one try to nothing.

Play on February 15th between the Middlesex Hospital and St. Thomas's in the second round of the Inter-hospital cup tie ended in a draw. It is expected that the match will be replayed early next week. The winner has a bye in the semi-final round and will enter the final. Play throughout the match was bad, the best feature of the game being the really good defensive work by Penny, who won his blue for Cambridge. During the second half of the game Hunter had to retire owing to a damaged collar bone.

The most interesting of next week's fixtures is the match between the London Hospital and Guy's (semi-final), which will take place on Wednesday at the Richmond Athletic ground.

THE LIMITATIONS OF A PURIN-FREE DIET.

MIDDLE-AGED writes: Having been on the above régime for over three years, as well as one of my family, I can say that, as far as people of ordinary health are concerned, it is quite feasible. Previously, though in good health from the insurance point of view, I was a frequent sufferer from rheumatism, headache, dental troubles, tendency to constipation, and short febrile attacks resembling influenza. For two and a half years now I have been quite free from all these annoyances, and even ordinary coryzas have been much less frequent, and last from one to two days only. The influenza-like attacks were, to my mind, due to what Dr. Haig calls collaemia, and at the beginning of my change of diet, when I was also taking salicylate, a similar brief attack supervened, brought on, I presume, by the drug.

I have never brought myself seriously to propose such a diet to a patient because the good results are slow in developing, and because I consider that serious consequences may attend the too sudden withdrawal of all stimulating foods, such as meat, etc., and beverages, such as tea, coffee, cocoa, etc.; to most people the diet seems to offer so little that is palatable that they would rather continue in their present state and be subject to frequent malaise. However, one other relative has gone in for the diet with good effects, and the example of my well-being is gradually affecting the mode of living of many others who have the opportunity of seeing me frequently.

Dietary for Three Days for a Person Weighing 150 lb. net, aged, say, 40.

FIRST DAY:

Lunch (12.30 to 1).—Green vegetables, baked potatoes and butter. Stewed figs, ½ pint junket. 2 oz. grated pine kernels with cream (whipped).

Dinner (7 or 7.30).—Biscuits, butter. 1 oz. grated cheese or curd. Light pudding. Cream, stewed fruit.

SECOND DAY:

Lunch (12.30 to 1).—Green vegetables, potatoes with butter and cheese sauce. Fruit tart, cream. ½ pint milk.

Dinner (7 or 7.30).—Biscuit, butter, two boiled eggs. Milk-pudding, containing ½ pint milk. Stewed fruit, cream.

THIRD DAY:

Lunch (12.30 or 1).—Green vegetables or salad, potatoes and butter. Pudding or cutlets containing 2 oz. of nuts. Stewed fruit, cream.

Dinner (7 or 7.30).—Biscuits and butter. Cheese soufflé or cheese omelette. Cream, stewed fruit, roast chestnuts.

Daily quantities: ½ pint of cream, 2 oz. of butter, 2 to 3 oz. of biscuit, 3 pints of milk, or 6 oz. of grated nuts, or 6 to 7 oz. of cheese, or the latter three in combination in varying quantities, allowance to be made for any eggs.

Remarks.—If a breakfast is required, milk or milk and biscuits, the above meals being reduced by the amount taken at breakfast. Unfertilized eggs are preferable to fertilized. Olive oil is useful where it can be taken, either neat or in salad according to season; raw fruit when in season, dried fruits in winter, stewed if preferred; nuts can be incorporated in many puddings, as also milk or milk powder.

Cheese can also be incorporated in many ways; macaroni cheese would be a substitute for biscuit, butter, and cheese.

I should say that any person of ordinary health and under 35 could make the change. In those of more advanced years and chronic invalids I doubt whether the change could be made at all. In any case I would suggest waiting for a temporary restoration to normal health.

In my case I do not feel the loss of any of the foods I have abandoned, and even alcohol has no charms. Many may argue that life under such circumstances is not worth living, but it must be conceded that immunity from small ailments brings with it the feeling that grave illnesses, which, after all, always are the results of severe colds or gastric indulgences, are no longer possible in my case. In this category I would place appendicitis, enteric, pneumonia, bronchitis, all acute rheumatic affections, and possibly even Bright's disease, diabetes and tuberculosis.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Eight lines and under	0	4	0
Each additional line	0	0	6
A whole column	2	13	4
A page	8	0	0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Wednesday morning preceding publication; and, if not paid for at the time, should be accompanied by a reference.

N.B.—It is against the rules of the Post Office to receive letters at *Postes Restantes* addressed either in initials or numbers.